Ice Drift and Draft Measurements from Moorings at the Confederation Bridge January – March 2002

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ABSTRACT

Hayden, H.B., D.J. Belliveau, and S.J. Prinsenberg. 2003. Ice Drift and Draft Measurements from Moorings at the Confederation Bridge January – March 2002. Can. Data. Rep. Hydrogr. Ocean. Sci. 163: iv + 209 p.

An Ice Profiling Sonar and an Acoustic Doppler Current Profiler were moored near the Confederation Bridge during the winter months of 2002 to measure ice thickness and drift velocity. The instruments were moored parallel with the main navigation channel, on the northwest side of the bridge near pier 23. The data were gathered, in part, to complement measurements of bridge pier tilt, being conducted by the National Research Council for studies of ice forces on structures. Data are presented on Ice Profiling Sonar and Acoustic Doppler Current Profiler range to surface, as well as current and ice speed. The ice approaches the bridge from both sides in a strong tidally driven environment, with a mean flow to the southeast. Unfortunately the Ice Profiling Sonar failed during the deployment, so ice drafts are estimates from the Acoustic Doppler Current Profiler bottom track ranges.

RÉSUMÉ

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Un sonar profileur de glace et un profileur de courant à effet Doppler acoustique ont été ancrés près du pont de la Confédération pendant les mois d'hiver de 2002 pour mesurer l'épaisseur et la vitesse de dérive des glaces. Les instruments ont été ancrés parallèlement au principal chenal de navigation, du côté nord-ouest du pont, près de la pile 23. Les données ont été recueillies, en partie, pour compléter les mesures de l'inclinaison des piles du pont qu'effectue le Conseil national de recherches du Canada aux fins d'études sur les forces exercées par les glaces sur des structures. Des données traitent de la portée du sonar profileur de glace et du profileur de courant à effet Doppler acoustique, ainsi que de la vitesse du courant et des glaces. Les glaces approchent du pont des deux côtés, dans un milieu fortement influencé par les marées, avec écoulement moyen vers le sud-est. Malheureusement, le sonar profileur de glace est tombé en panne pendant le déploiement, les valeurs de calaison des glaces sont donc des estimations obtenues à partir des mesures de repérage du fond provenant du profileur de courant Doppler acoustique.

1 INTRODUCTION

As part of field programs to study pack ice properties in the southern Gulf of St. Lawrence and Northumberland Strait, data were collected using a moored Acoustic Doppler Current Profiler (ADCP) and an Ice Profiling Sonar (IPS) from December 2001 until May of 2002. The instruments were deployed south of Prince Edward Island, in the Northumberland Strait, near Pier 23 of the 13 kilometre long Confederation Bridge which links the Island with Canada's mainland (Fig.1). The data were gathered, in part, to support a study of ice forces on bridge piers being conducted by the National Research Council (Kubat et al., 2000).

The bridge is located at the narrowest portion of the Northumberland Strait, where currents are highest. The primary axis of flow is along 310/130 degrees true. There is very little cross channel flow.

This report presents plots of ice velocity, current velocity, water temperature, ice draft verses time and ice draft verses uniform distance data collected by or computed from the moored instruments. Environment Canada weather station data have also been included.

This report follows the same outline as the 2000 Confederation Bridge Ice Drift data report which covered the moored data from the same area during the 2000 ice season (Hayden et al., 2002).

2 INSTRUMENTATION

2.1 Acoustic Doppler Current Profiler (ADCP)

ADCP's, manufactured by RD Instruments of San Diego, California, have been used since the late 1980's to measure ice velocity from moorings below the ice (Belliveau et al, 1990). These instruments use four acoustic beams to measure the water velocity and the ice drift as they pass above the mooring. By measuring the Doppler shift of the acoustic signal returned from scatterers in the water column, and from the ice/water interface, the instrument can determine the velocity of the water and ice. The ADCP uses a minimum of three valid beams to measure the two horizontal components of velocity. The vertical velocity can be measured using only two opposing beams. The vertical velocity is assumed to be zero on average and can be used as a data quality check. A more sensitive quality check is the difference between the vertical velocities as measured by the two pairs of opposing beams. This "error velocity" is very sensitive to surface waves and can be used to determine periods of open water.

The ADCP provides a profile of the water velocity with user selectable bins of 1 to 8 meter depth averages. The bottom track measurement from an instrument moored on the bottom gives the ice velocity. This bottom track measurement can also be used to measure the range to surface and is used to determine ice draft in this report.

2.2 MicroCAT CTD

Sea-Bird Electronics, Inc.'s SBE 37-SM MicroCAT is a moored conductivity, temperature and pressure recorder. The MicroCAT has a standard serial interface and non-volatile FLASH memory. Salinity and speed of sound are examples of computed output from the MicroCAT.

2.2 Ice Profiling Sonar (IPS)

The Ice Profiling Sonar, manufactured by ASL Environmental of Sydney, British Columbia, was developed at the Institute of Ocean Science during the late 80's and early 90's (Melling et al, 1995). The IPS is a 420 kHz sonar with a 2 degree beamwidth, capable of pinging once a second to range off the bottom of the ice. The unit also has tilt sensors and a very accurate pressure sensor so the range data can be corrected for tidal and atmospheric variations to produce accurate measurements of ice draft. Unfortunately, the Ice Profiling Sonar did not work during this survey.

2.3 Meteorological Stations

IFN Engineering Ltd. collected weather data at the Confederation Bridge at Pier 21 under contract for Public Works Government Services Canada, the government department responsible for the bridge project. The data included wind speed and direction and atmospheric pressure; no air temperature data was available from this data set as the temperature sensor did not work.

Weather data were also obtained from Environment Canada Weather Office in Summerside, Prince Edward Island. The data included wind speed and direction, air temperature, and atmospheric pressure. Atmospheric pressure data from the Summerside sensor was corrected to sea level and was therefore used in the IPS processing.

2.4 Instrument Set Up and Deployment

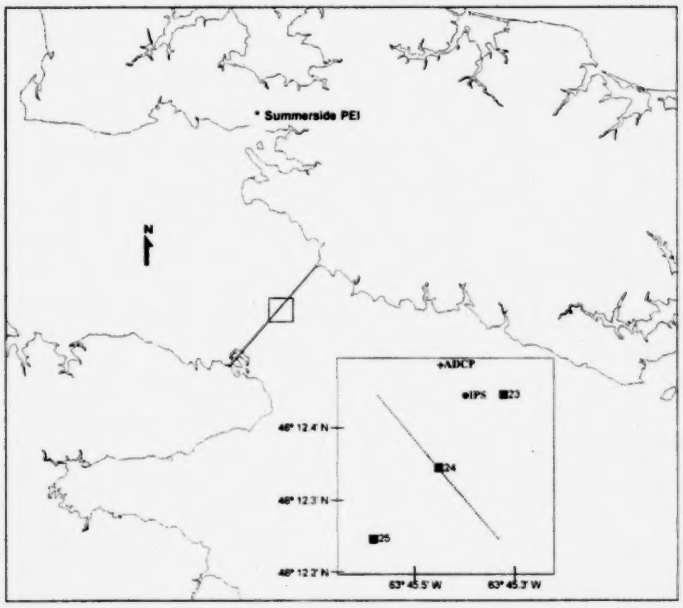

Figure 1. **Location map showing the Confederation Bridge relative to the Maritime Provinces, and the location of the instruments in 2002 relative to bridge pier 23. The dotted line shows the primary axis of flow.**

In December of 2001, a pair of instruments was deployed on the Northwest side of Bridge Pier 23 (Fig. 1). The IPS unit was located close to the pier at the request of the NRC researchers to try to provide better correlation between the ice thickness and speed, and the bridge tilt measurements. The IPS was set up to range every second. The ADCP was set up to collect the average current profile, 2m bins, and the average ice velocity every 15 minutes. The IPS was moored on the bottom at 20 m in a trawl proof package. The ADCP and MicroCAT CTD were on a 2 float mooring with the ADCP in the top float at 16m and the MicroCAT beneath the second float at 18m. Metrological Data used in the processing was collected from instrumentation at pier 21 of the bridge and Summerside.

3 SUMMARY

Ice coverage was light in the Northumberland Strait for the winter of 2002. The ADCP worked well but the Ice Profiling Sonar transmitter failed. Fortunately, an ice draft record could be determined using the ADCP "Bottom Track" range to surface measurements. A draft verses Uniform Distance record was also processed. These records are heavily filtered and are based on the 15 minute ADCP interval as opposed to 1 second IPS data. The Bottom Track ranges were processed in an Excel Spreadsheet to filter for "no ice" periods and to correct for pressure offsets. The final plots of ice verses uniform distance include ice from Jan 5th 2002 to March 30th 2002. There was very little ice coverage in January.

4 ACKNOWLEDGMENTS

The sea ice program is funded through the Program of Energy Research and Development of Natural Resources Canada and logistically supported by the Canadian Coast Guard. The authors wish to thank the officers and crew of the CCG ships Provost Wallis, Earl Grey for their assistance during the deployments and recoveries, and Jim Bruce of IFN Engineering Ltd. for supplying the meteorological data. The authors also wish to thank John Francis, General Manager, Confederation Bridge Authority, Borden, Prince Edward Island, for his ongoing support. Many thanks also to Dave Billenness of Arctic Sciences Limited for his assistance with the ASL processing software. We would like to give special thanks to Murray Scotney of Technical Services at BIO for his excellence in the instrumentation mooring, recovery, and data collection for this project.

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Hayden, H., D.Belliveau, and S. J. Prinsenberg. 2002. Ice Drift and Draft from Moorings at the Confederation Bridge January - March 2000. Can. Data. Rep. Hydrogr. Ocean. Sci. 158: iv + 186 p.

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Prinsenberg,S.J. and I.K. Peterson, 2001. Pack ice thickness and concentration measurements from the area around the Confederation Bridge (Canada) using helicopter-borne sensors . *Proceedings of the 16th Int. Conf. on Port and Ocean Engineering under Arctic Conditions,* Ottawa, Canada, August 12-17, 2001.

6 DATA PROCESSING AND PLOTS

The following section includes plots and processing information from the ADCP, CTD, IPS, and Weather Stations. The instruments were moored from December 2001 to May of 2002. For the purpose of ice draft records and draft verses uniform distance the record was shortened to January 5th to March 31st 2002. There was very little ice observed outside this time period.

Processing and analysis were carried out using software developed at ASL Environmental with site and instrument specific changes made during processing. Some interim processing steps were carried out in Excel.

6.1 ADCP 499 Northwest Mooring 1423

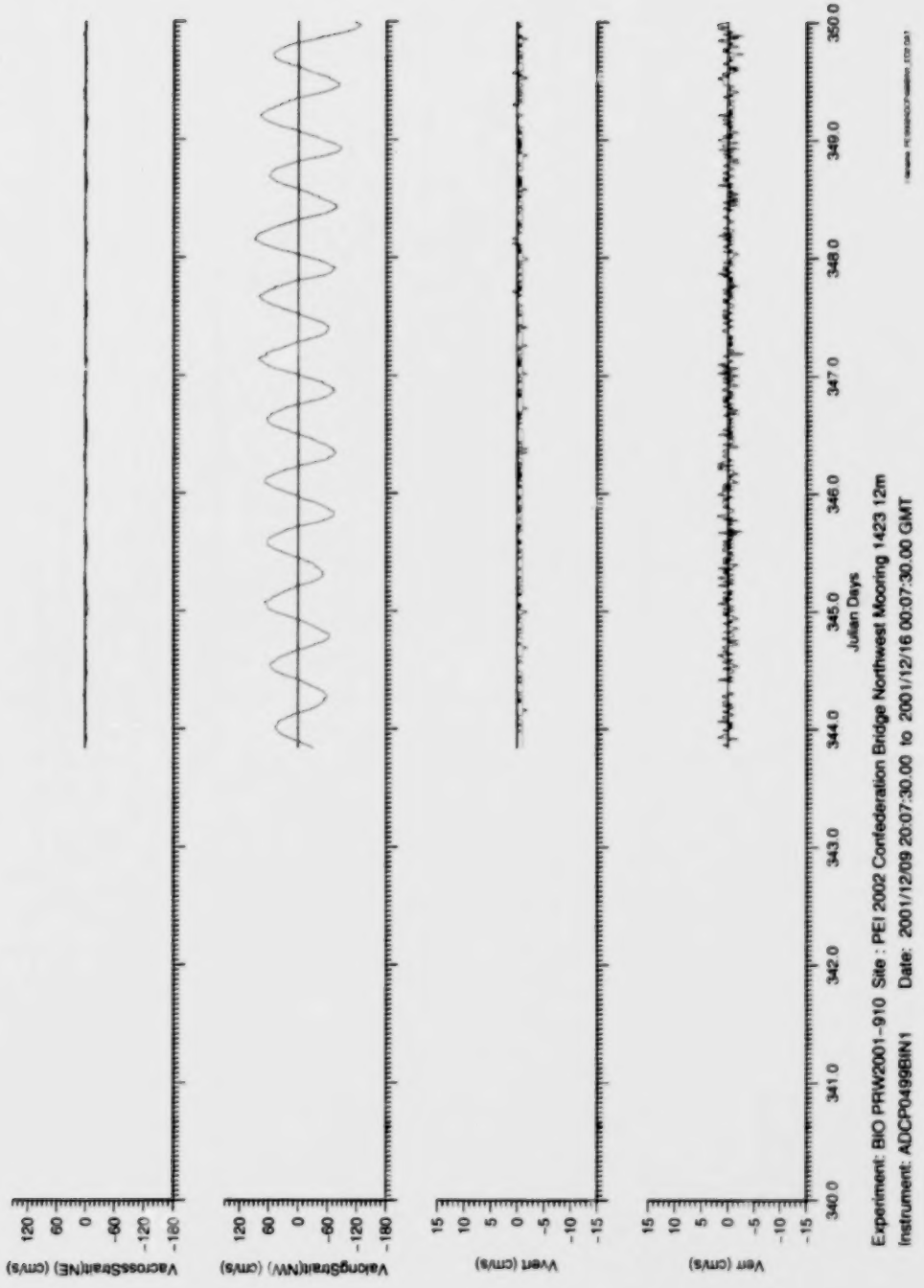
The ADCP was deployed at the Confederation Bridge from December 2001 to May 2002. ADCP 499 was deployed on the Northwest side of the Confederation Bridge from December 9th 2001 until May 1st 2002 at 46° 12.483'N, 63° 45.487'W. The ADCP was in the top float of a two-float mooring at 16 metres in 20 metres of water, with a 15-minute sample interval. A MicroCAT CTD was on the mooring line just below the second float at 18 meters.

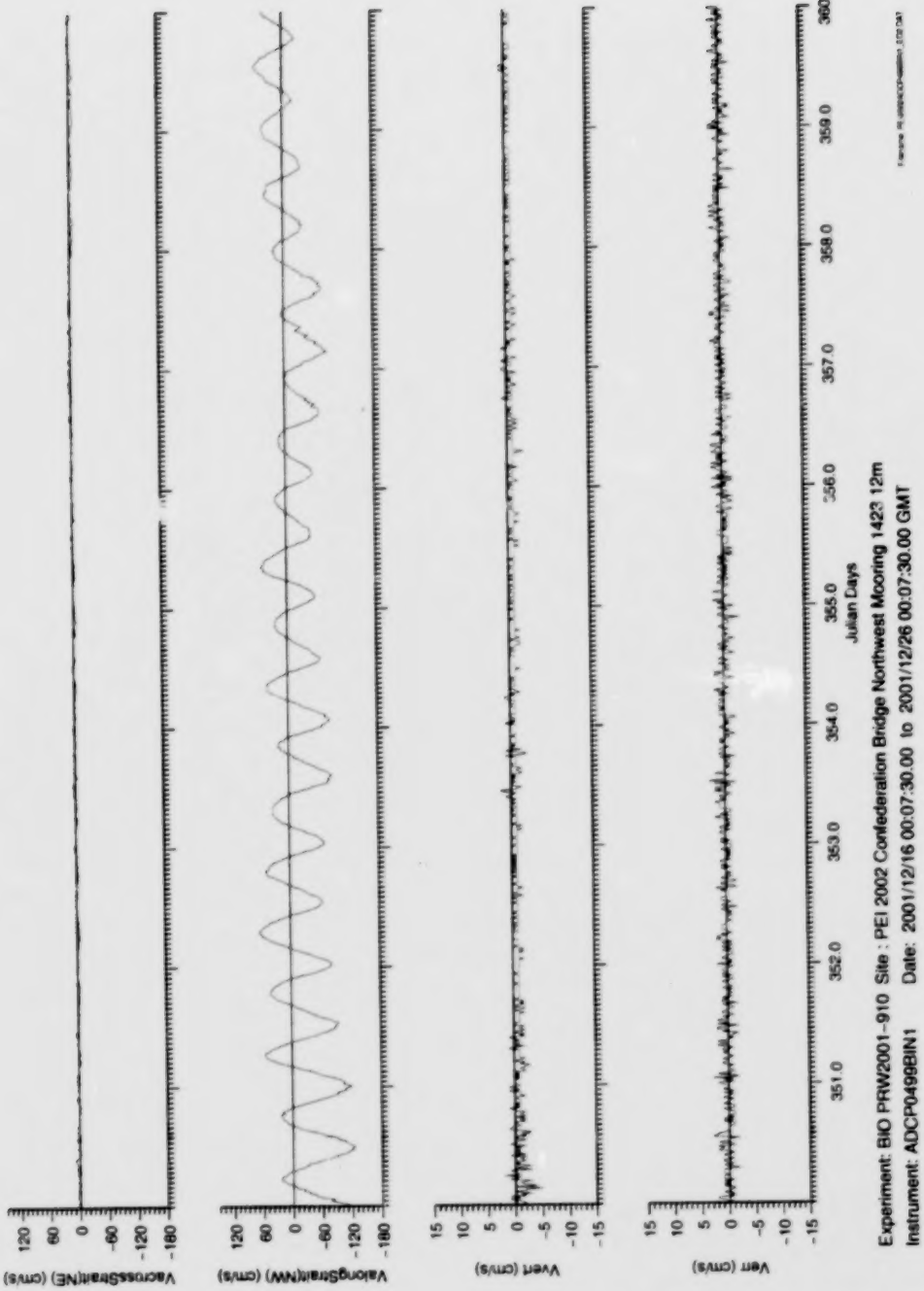
Data from the ADCP was initially processed with software provided by RD Instruments. A correction of +28.5° was applied to correct for -21.5° of magnetic variation and +50° to align the components of flow with the axis of the channel (310°/130°). Time was adjusted by +7.5 min from the start time recorded on the log sheet to reflect the center of the sample interval.

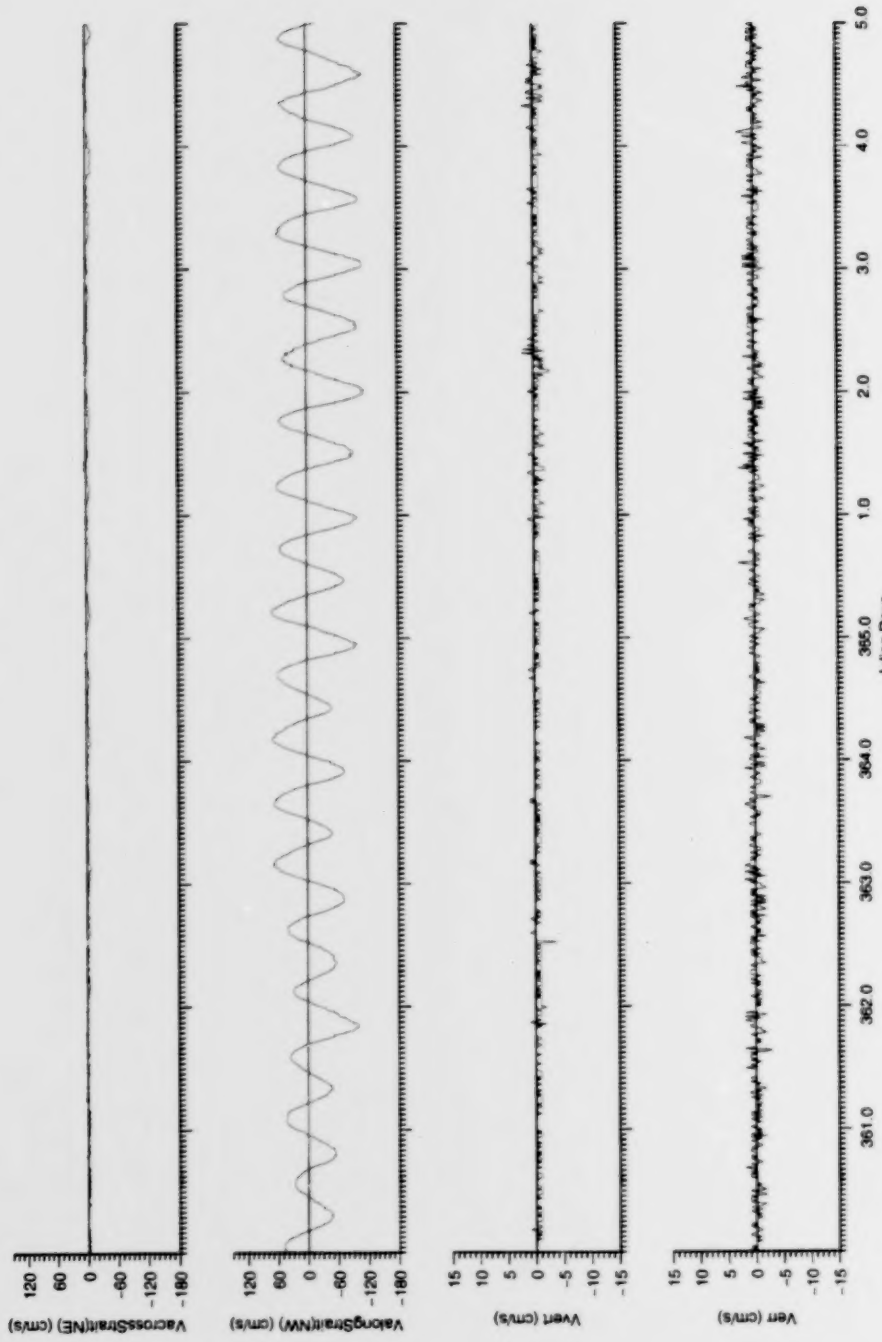
The data have been despiked. Water column bins above 4m were not processed due to noise as a result of sidelobe reflection from the surface and ice. The Ice Velocity is measured using the bottom track mode of an upward looking ADCP. ADCP Bottom Track ranges were used in this report to estimate the Ice Draft.

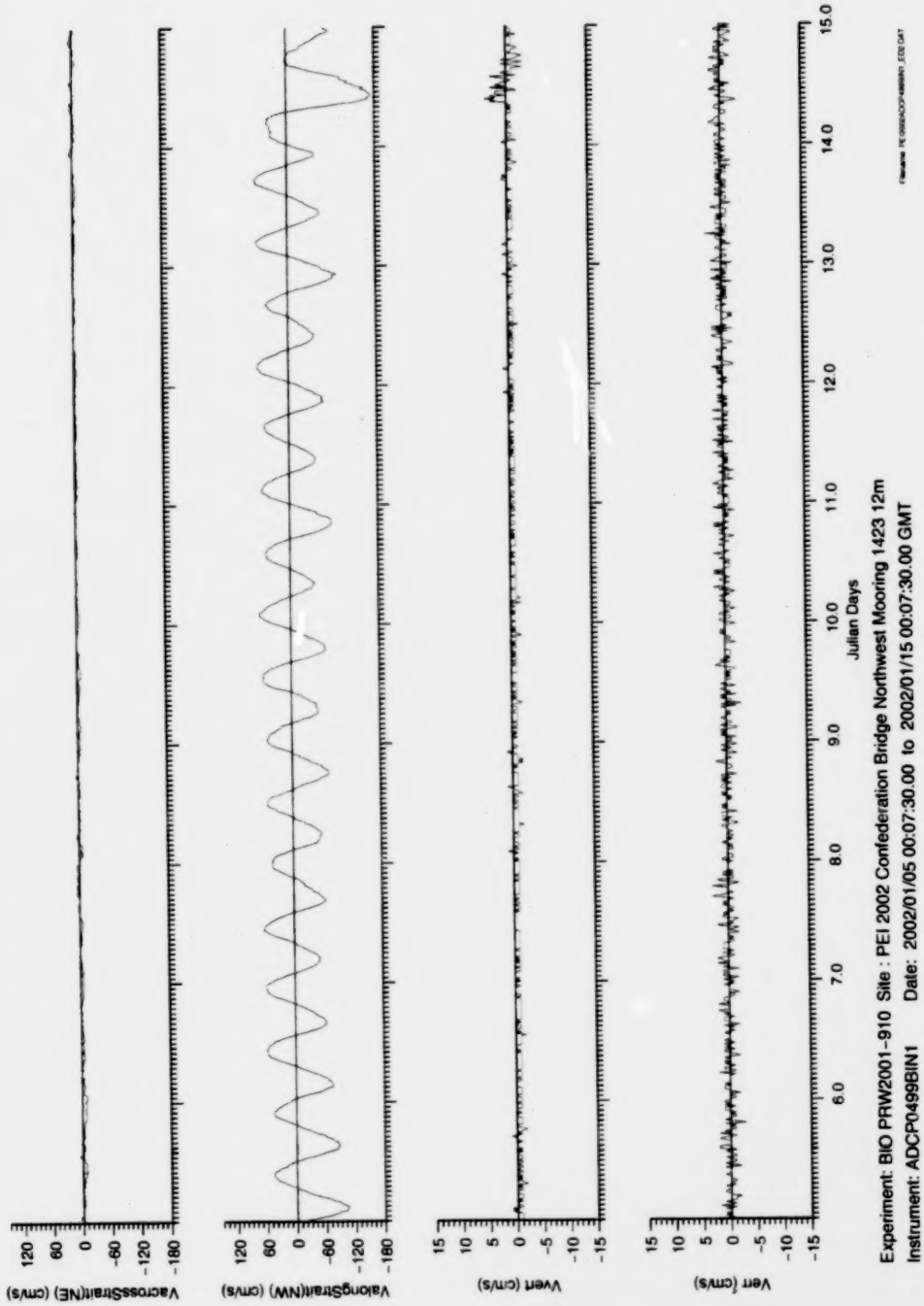
6.1.1 ADCP Current Velocity

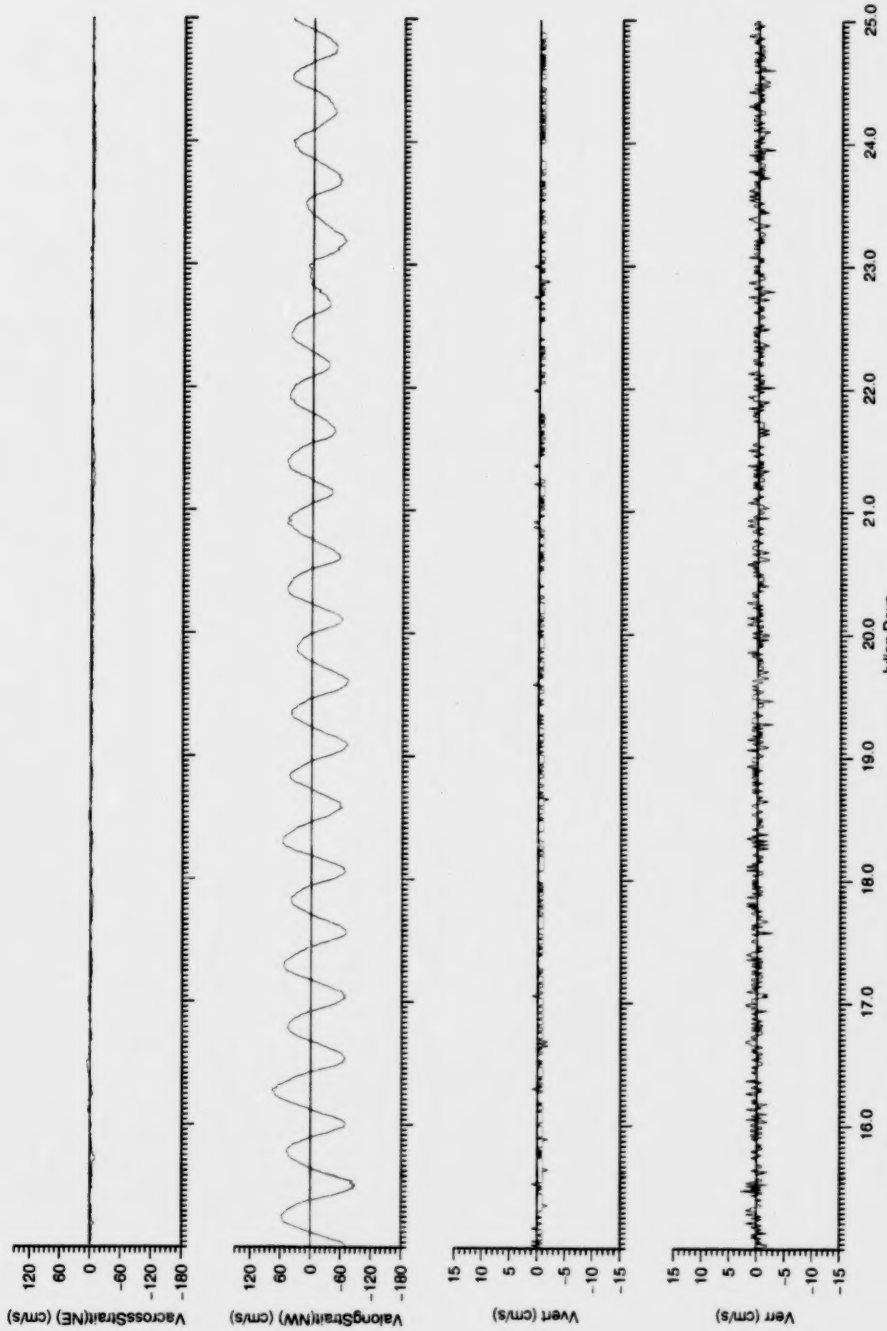
Following are plots of water column data, Bin 1 at 12m, Bin 3 at 8m, and Bin 5 at 4 m. Note that there are increased vertical and error velocities at times in Bin 5. This could be caused by deep ice ridges or waves interfering with the measurements in the near surface bin. Velocity no data values of -9999 are plotted as 150.


VacrossStrait(NE) (cm/s)
ValongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
340.0
341.0
342.0
343.0
344.0
345.0
346.0
347.0
348.0
349.0
350.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP0499BIN1 Date: 2001/12/09 20:07:30.00 to 2001/12/16 00:07:30.00 GMT


AcrossStrait(NE) (cm/s)
AlongStrait(NW) (cm/s)
Vert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
351.0
352.0
353.0
354.0
355.0
356.0
357.0
358.0
359.0
360.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP04998IN1 Date: 2001/12/16 00:07:30.00 to 2001/12/26 00:07:30.00 GMT


Vacross Strait(NE) (cm/s)
Valong Strait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
361.0
362.0
363.0
364.0
365.0
1.0
2.0
3.0
4.0
5.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP0499BIN1 Date: 2001/12/26 00:07:30.00 to 2002/01/05 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
ValongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP0499BIN1 Date: 2002/01/05 00:07:30.00 to 2002/01/15 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vvert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
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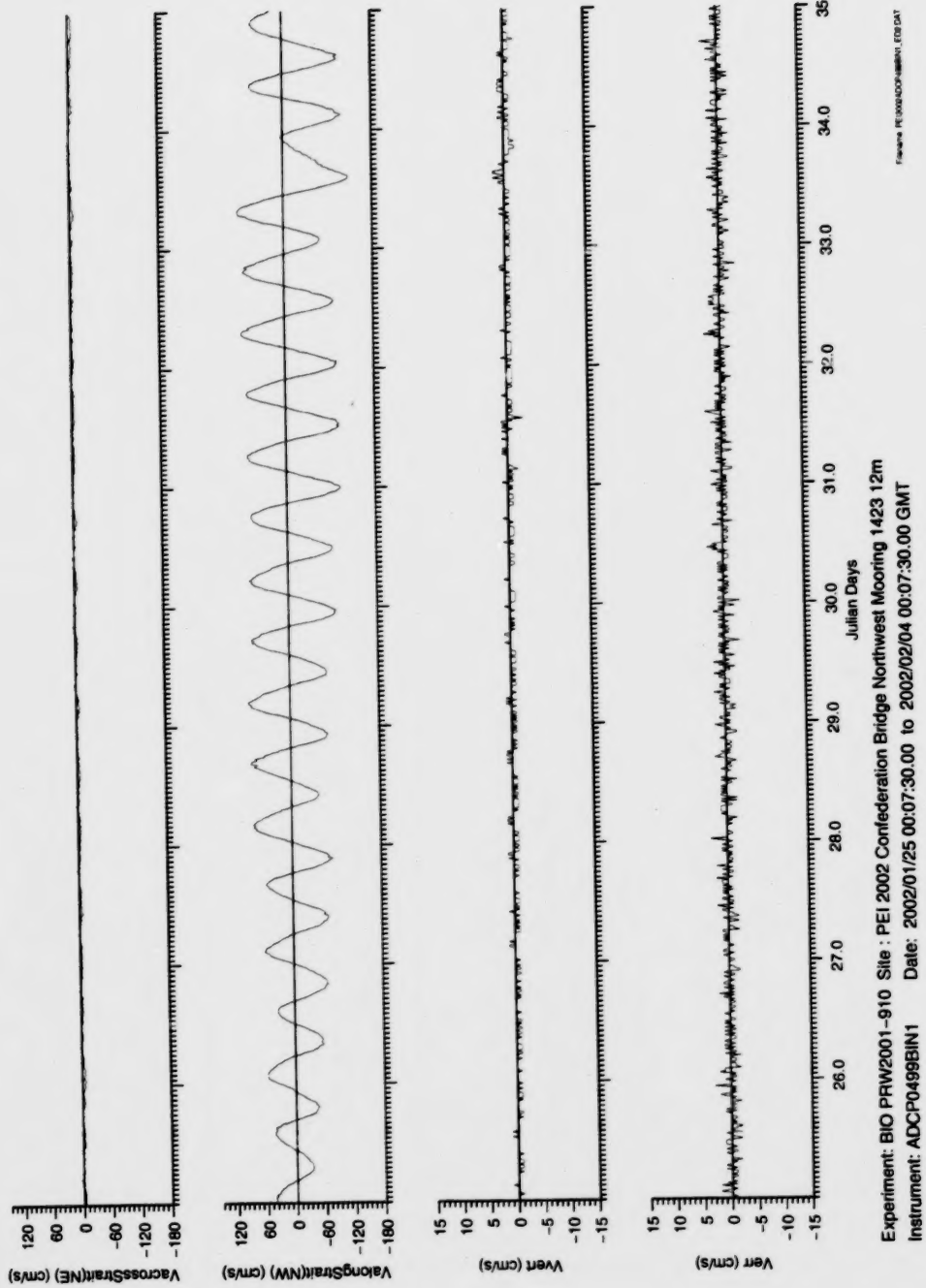
VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
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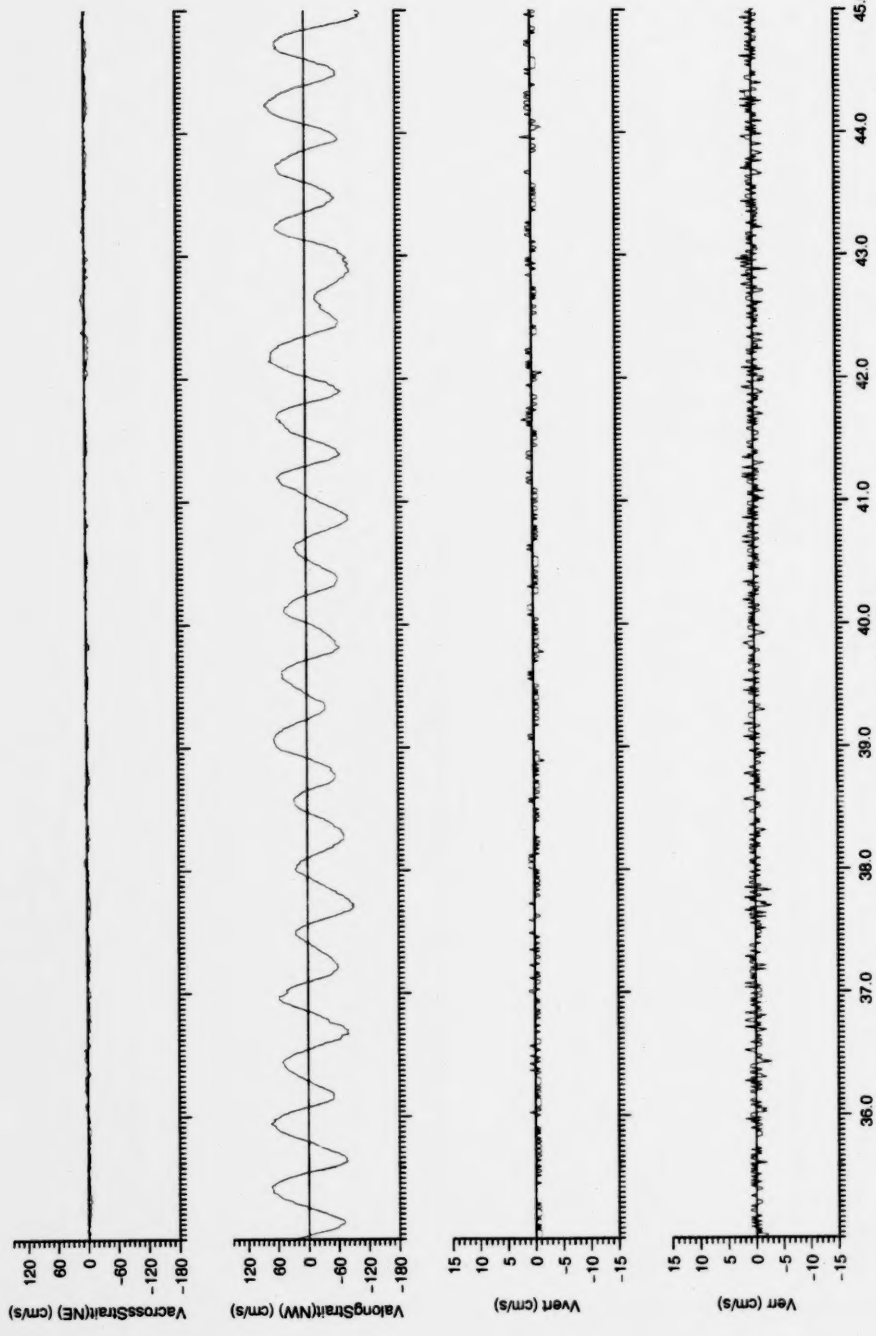
VacrossStrait(NE) (cm/s)
ValongStrait(NW) (cm/s)
Vvert (cm/s)
Verr (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
36.0
37.0
38.0
39.0
40.0
41.0
42.0
43.0
44.0
45.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
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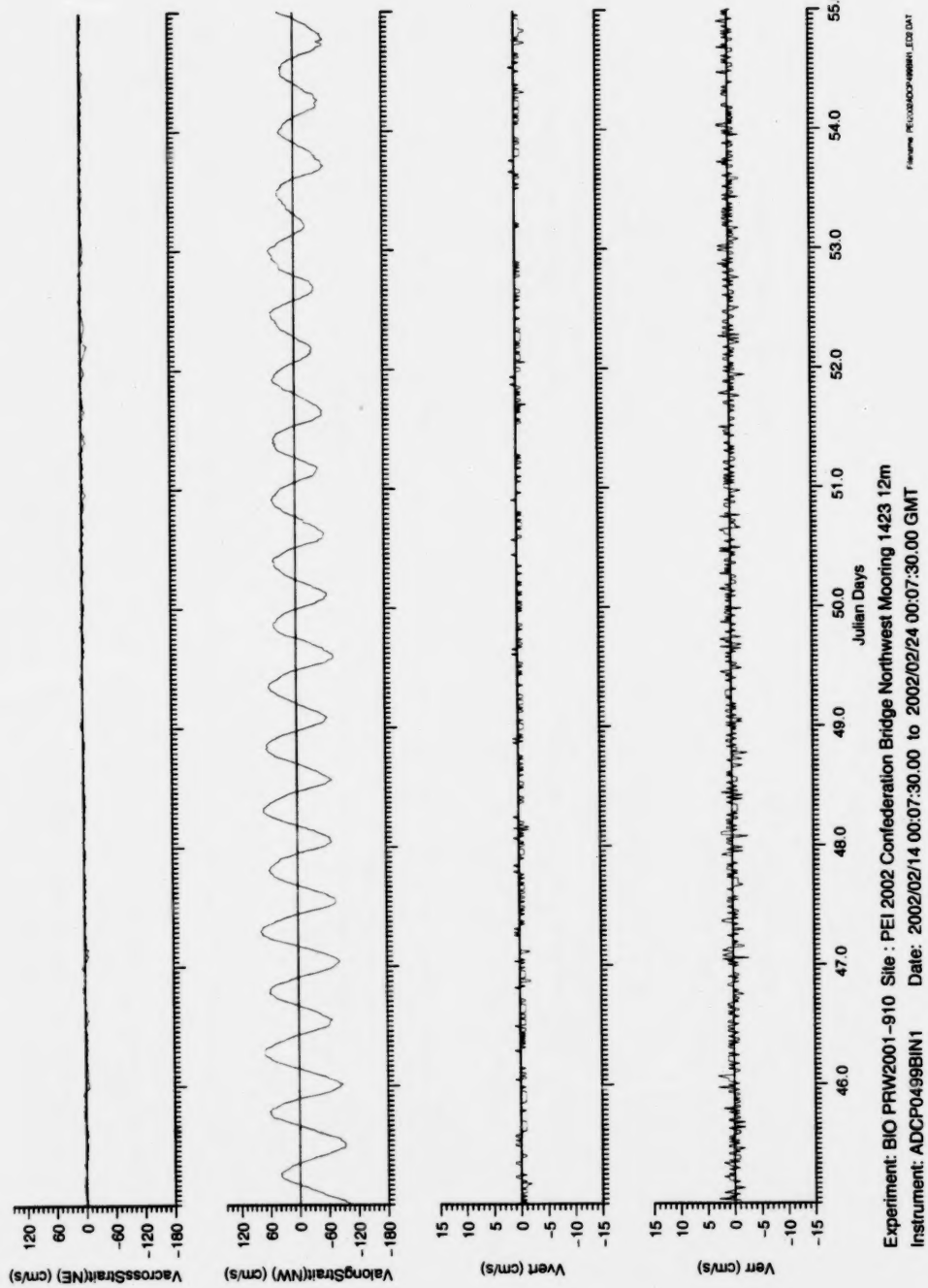
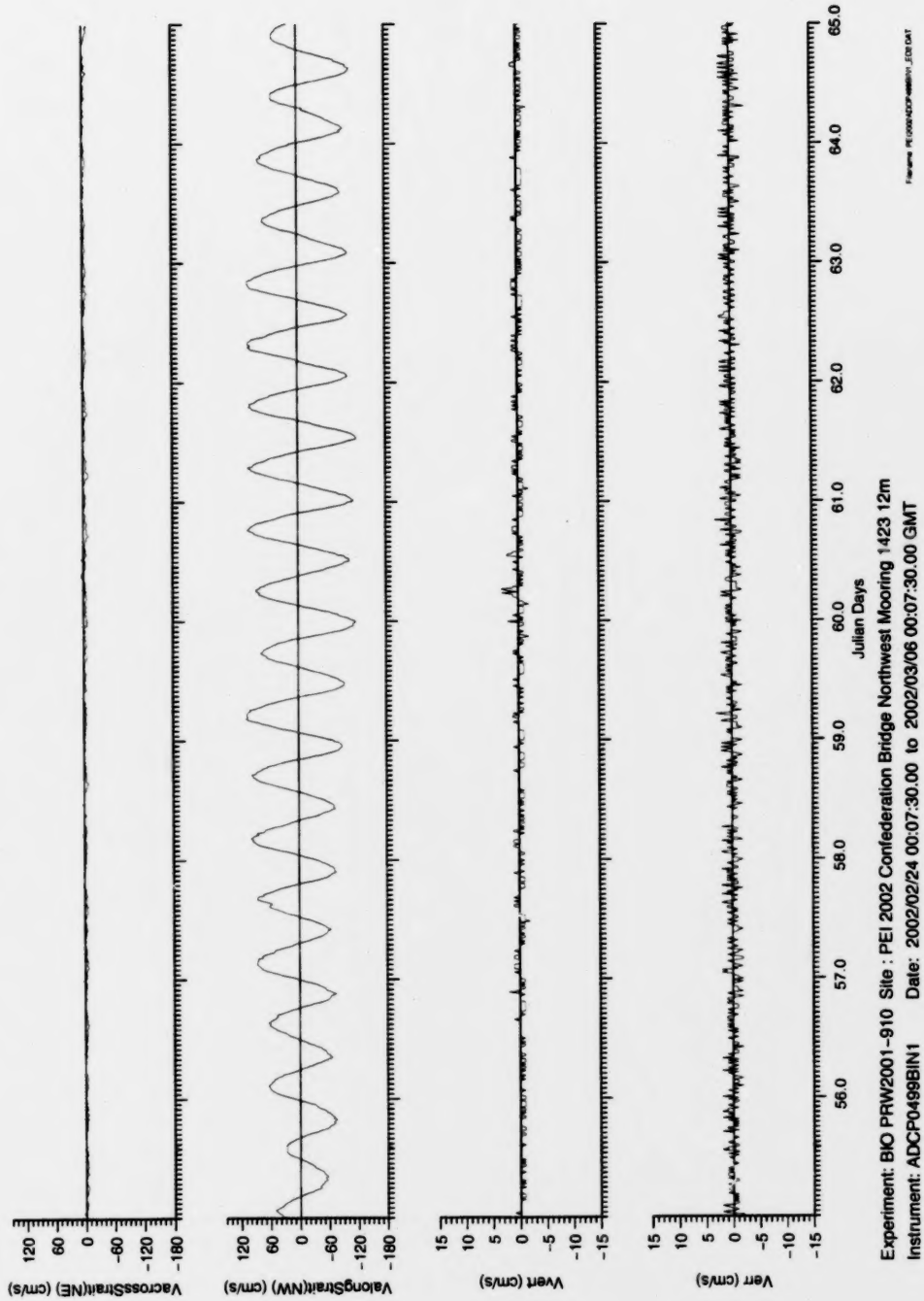

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Verr (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
46.0
47.0
48.0
49.0
50.0
51.0
52.0
53.0
54.0
55.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP0499BIN1 Date: 2002/02/14 00:07:30.00 to 2002/02/24 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vert (cm/s)
Vert (cm/s)
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60
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-60
-120
-180
15
10
5
0
-5
-10
-15
56.0
57.0
58.0
59.0
60.0
61.0
62.0
63.0
64.0
65.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
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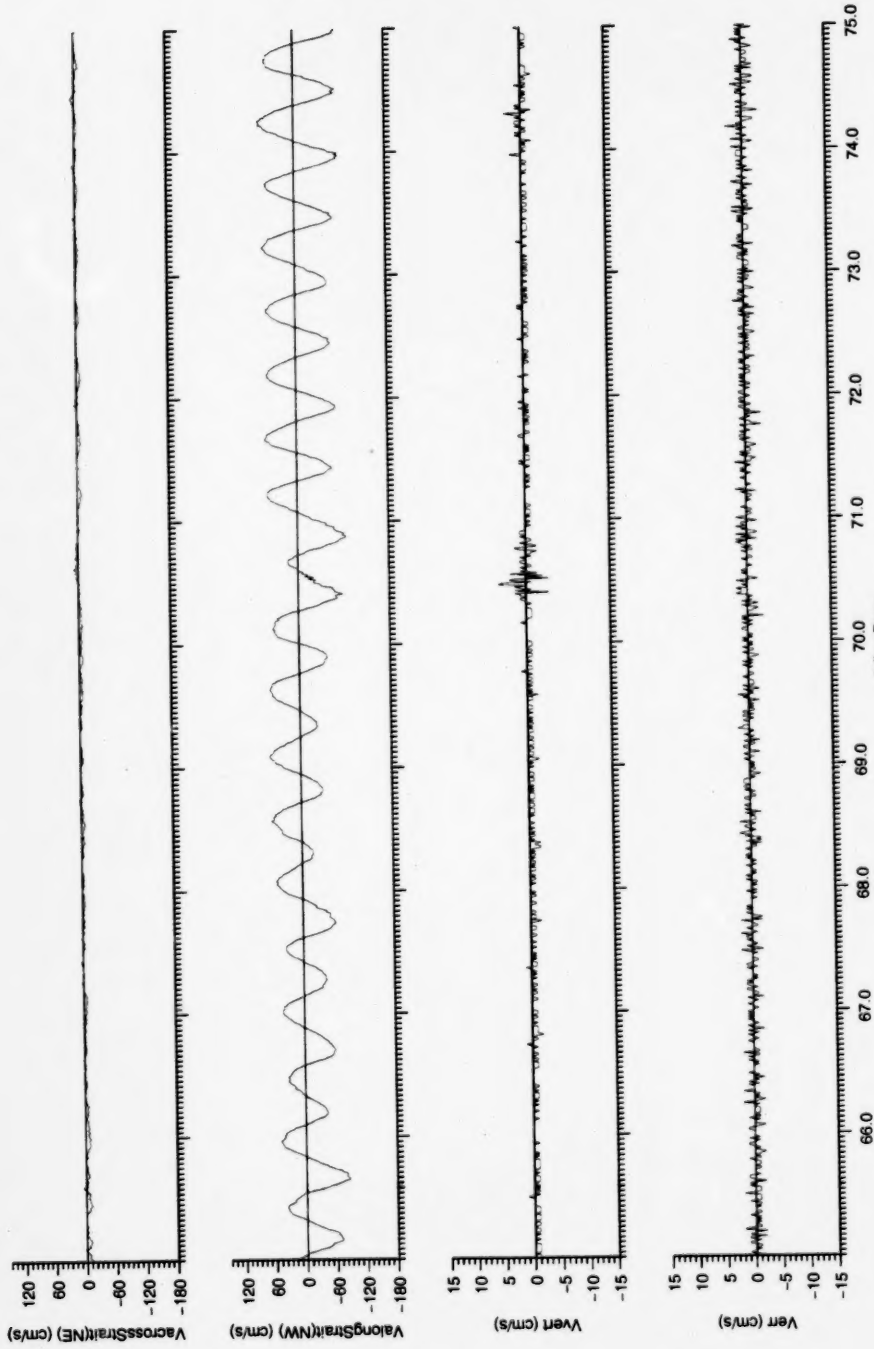
VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
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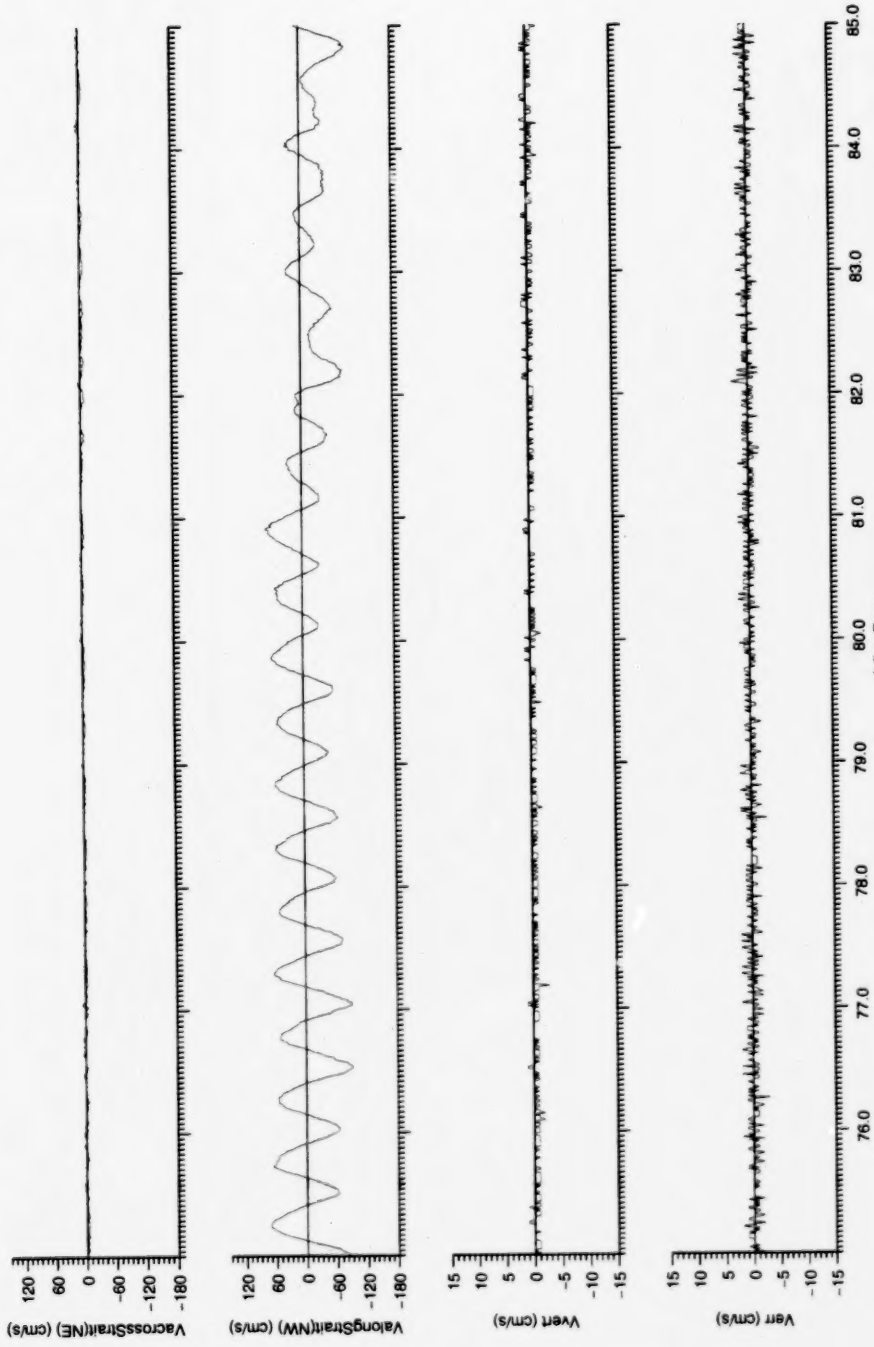
VacrossStrait(NE) (cm/s)
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-120
-180
ValongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vert (cm/s)
15
10
5
0
-5
-10
-15
Verr (cm/s)
15
10
5
0
-5
-10
-15
76.0
77.0
78.0
79.0
80.0
81.0
82.0
83.0
84.0
85.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
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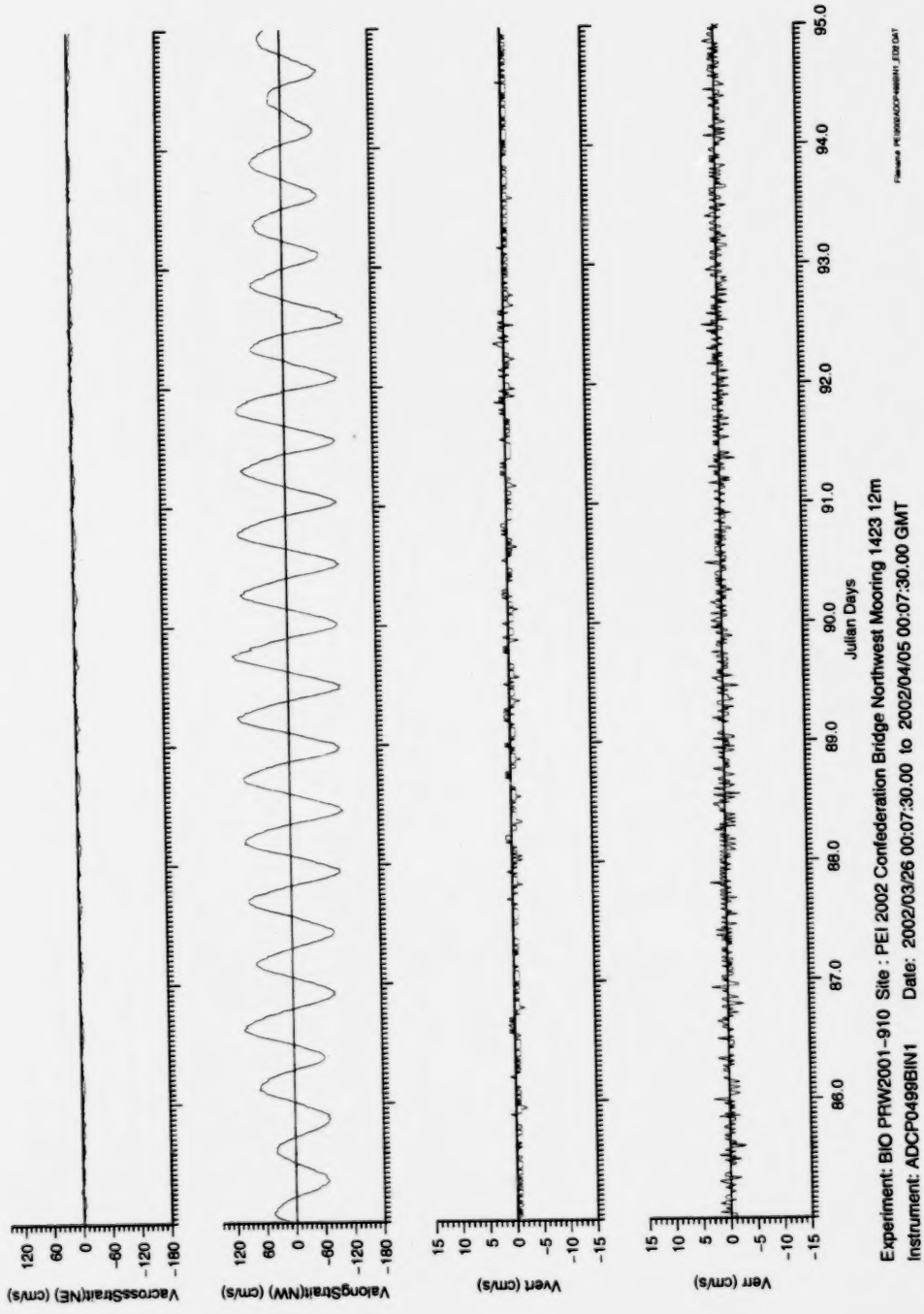
VacrossStrait(NE) (cm/s)
120
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ValongStrait(NW) (cm/s)
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60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Vhrr (cm/s)
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10
5
0
-5
-10
-15
86.0
87.0
88.0
89.0
90.0
91.0
92.0
93.0
94.0
95.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
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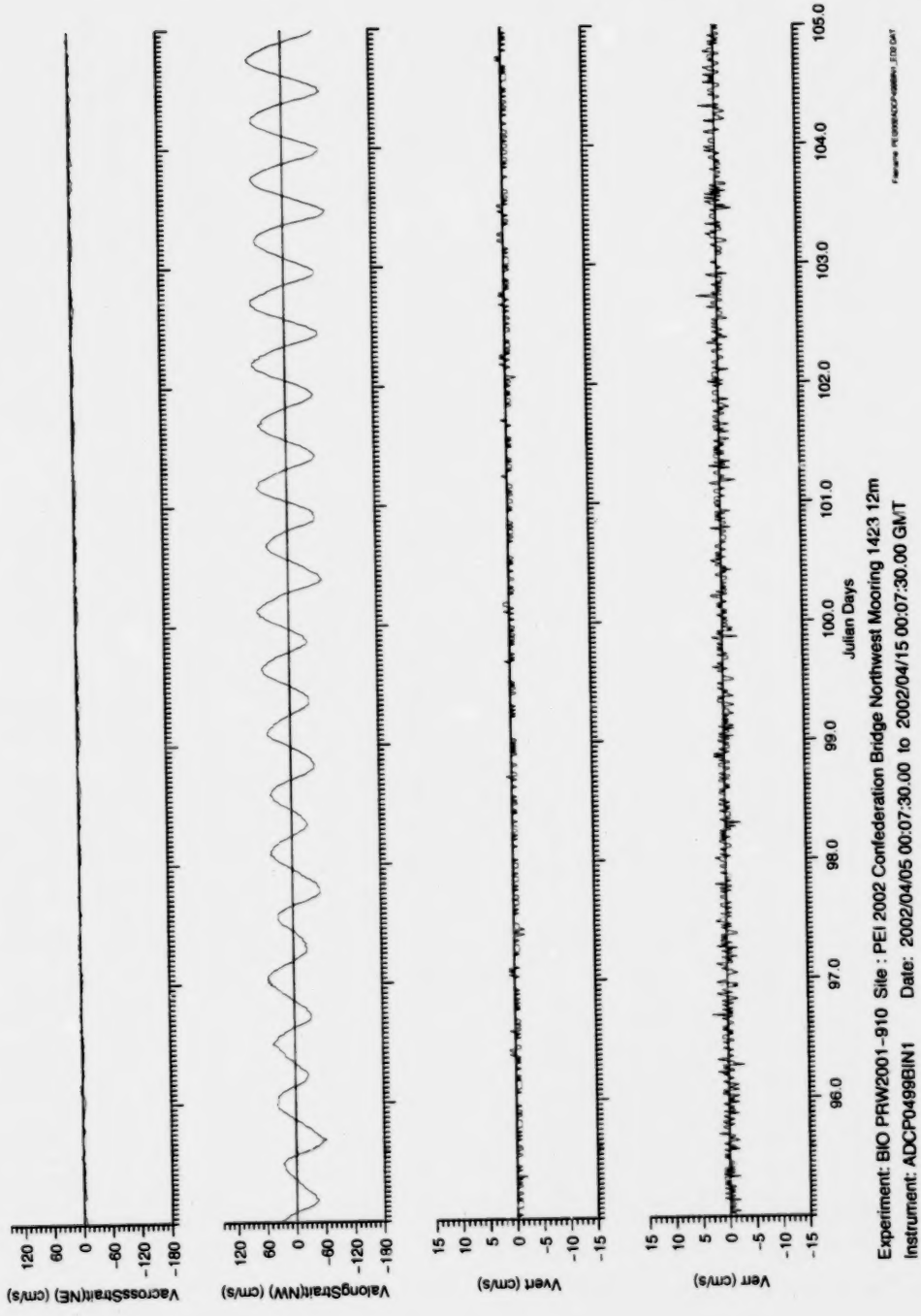
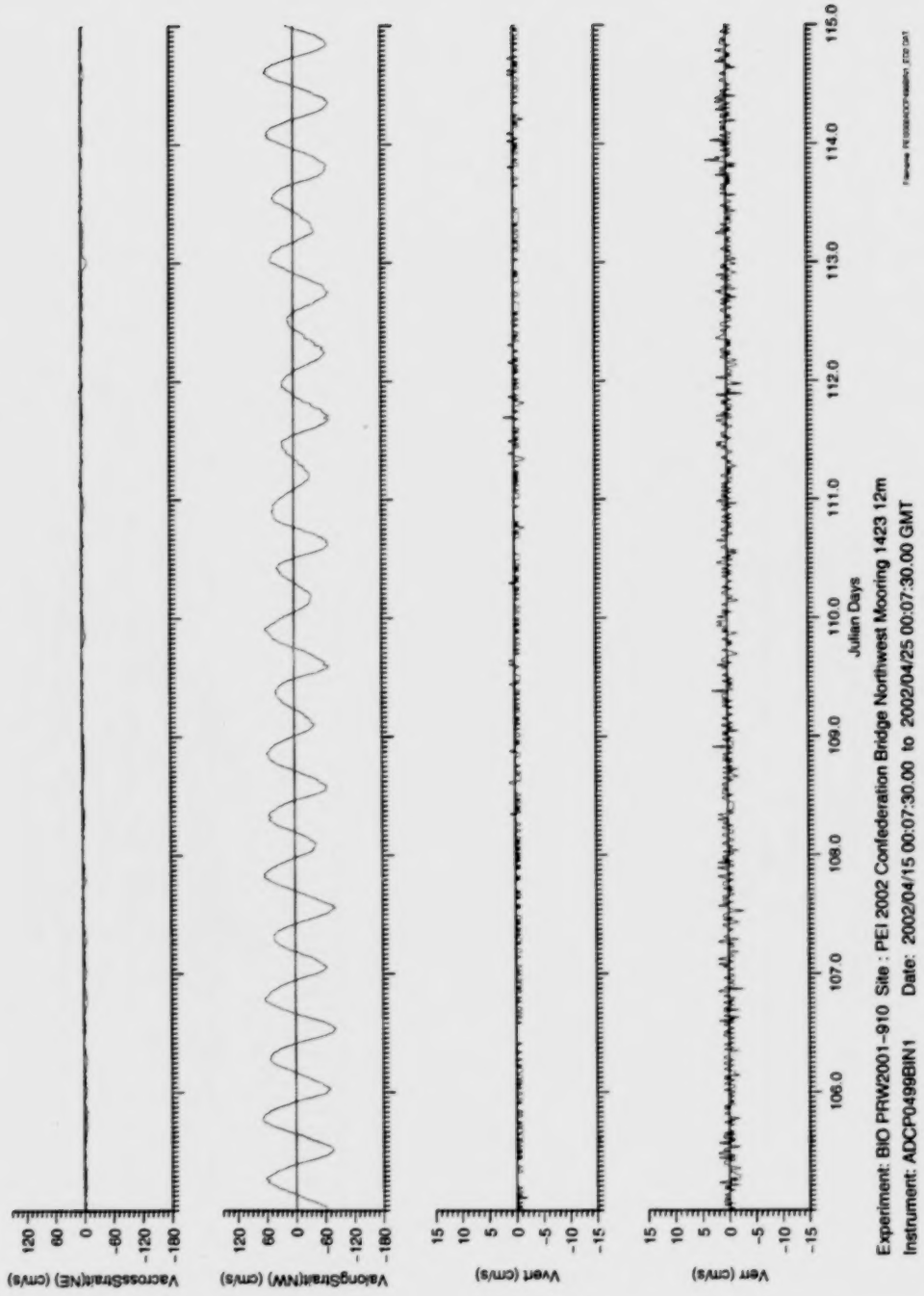
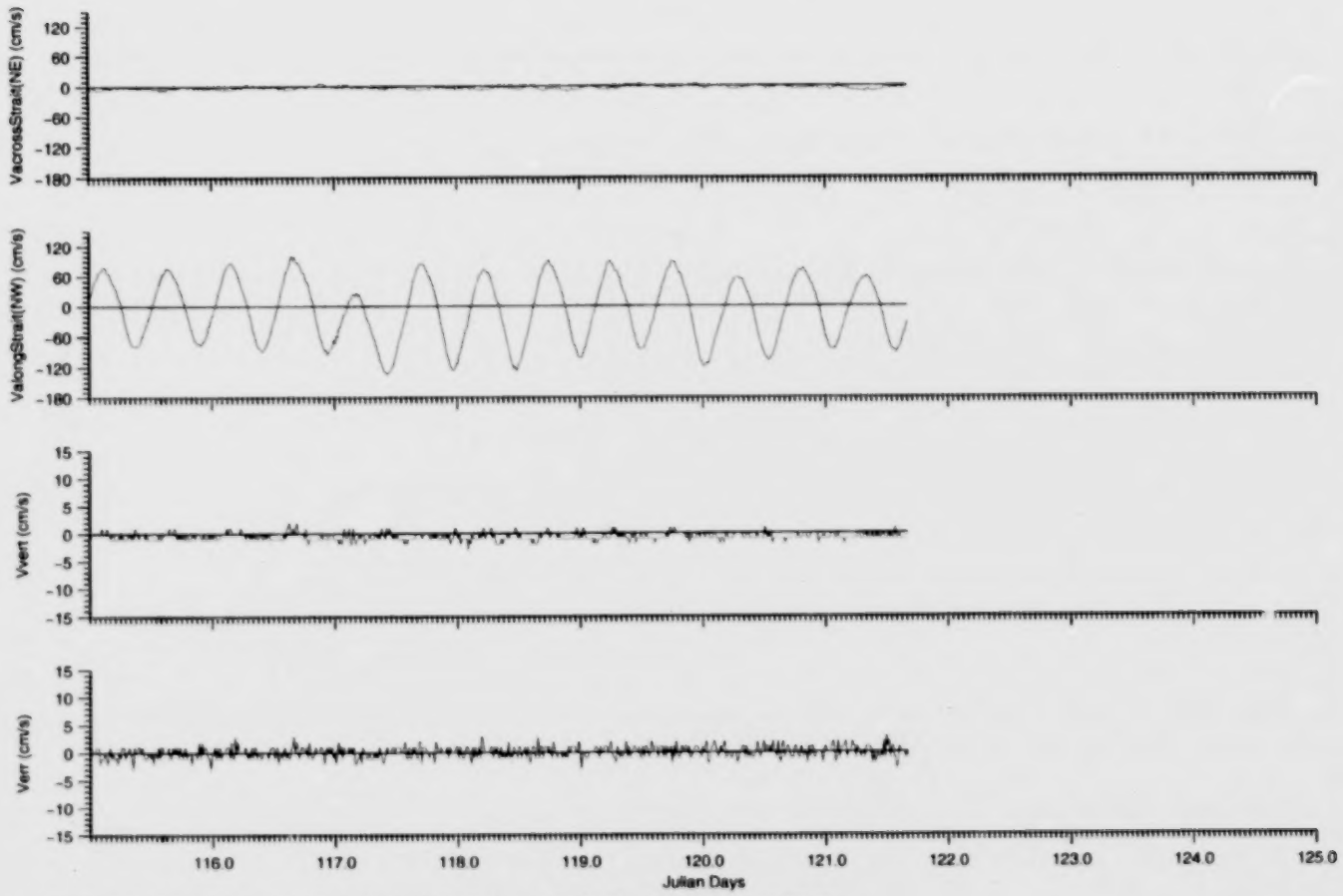
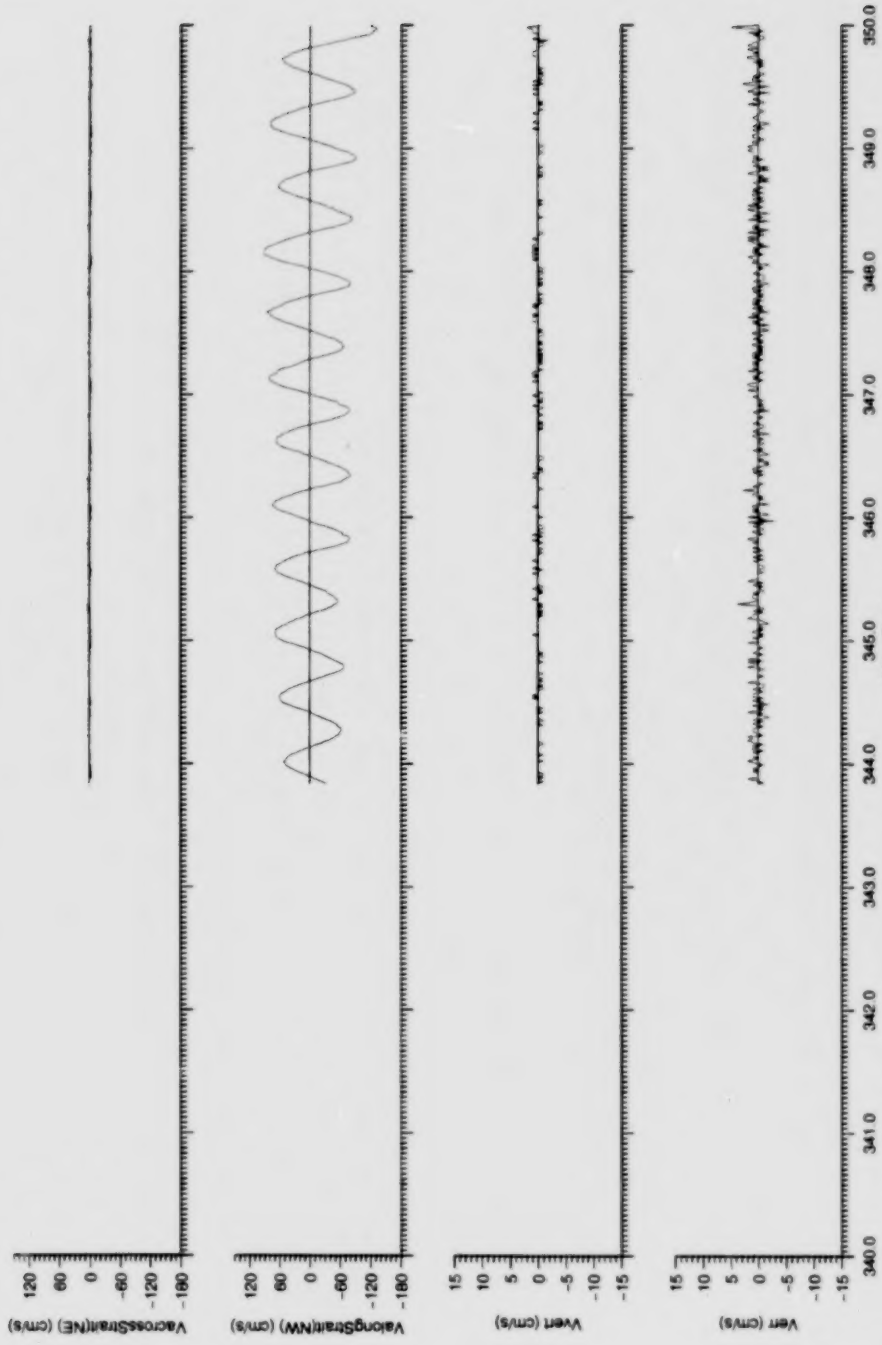

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP0499BIN1 Date: 2002/04/05 00:07:30.00 to 2002/04/15 00:07:30.00 GMT

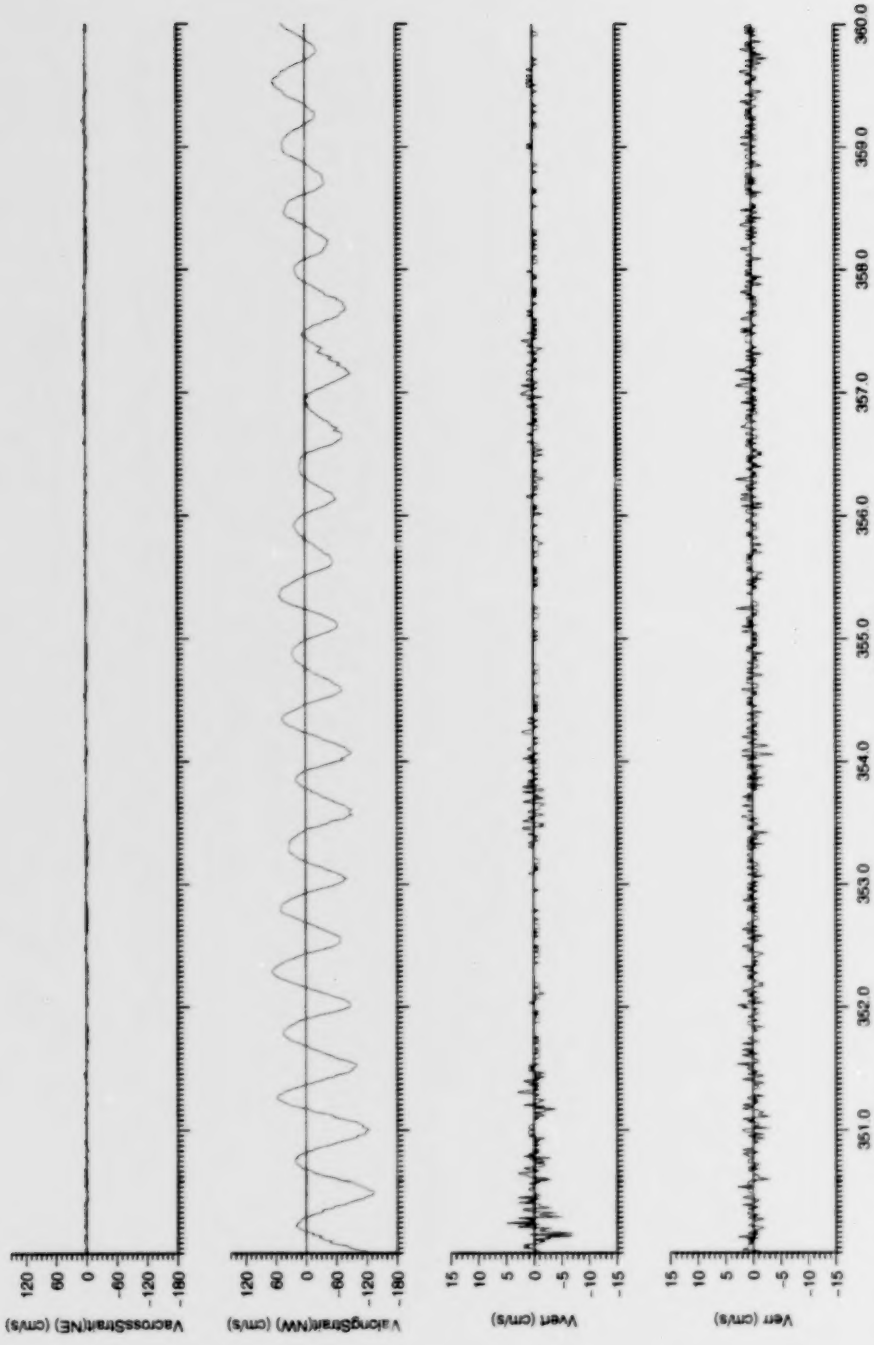

Vacross Strait(NE) (cm/s)
Valong Strait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
106.0
107.0
108.0
109.0
110.0
111.0
112.0
113.0
114.0
115.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m
Instrument: ADCP0499BIN1 Date: 2002/04/15 00:07:30.00 to 2002/04/25 00:07:30.00 GMT

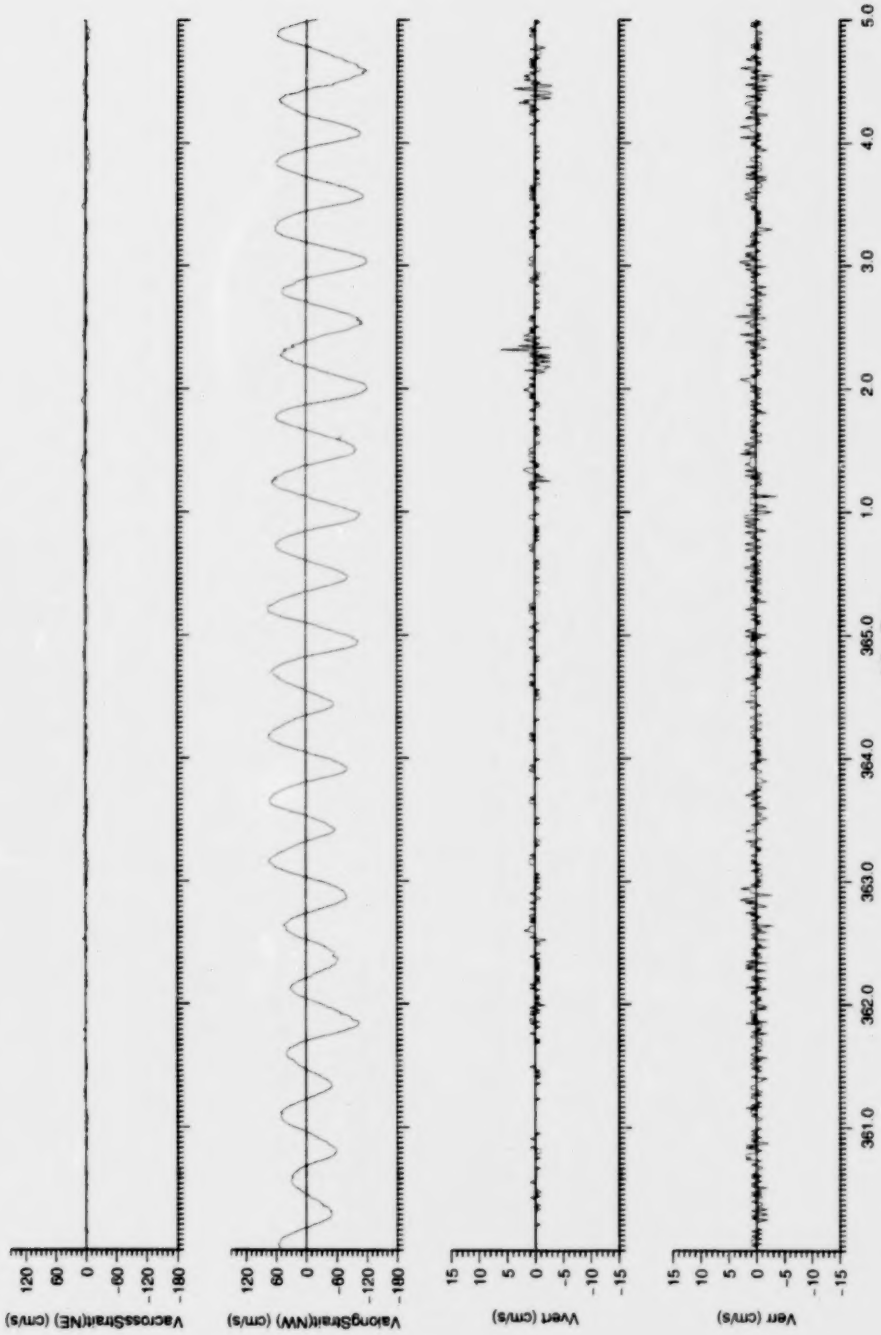


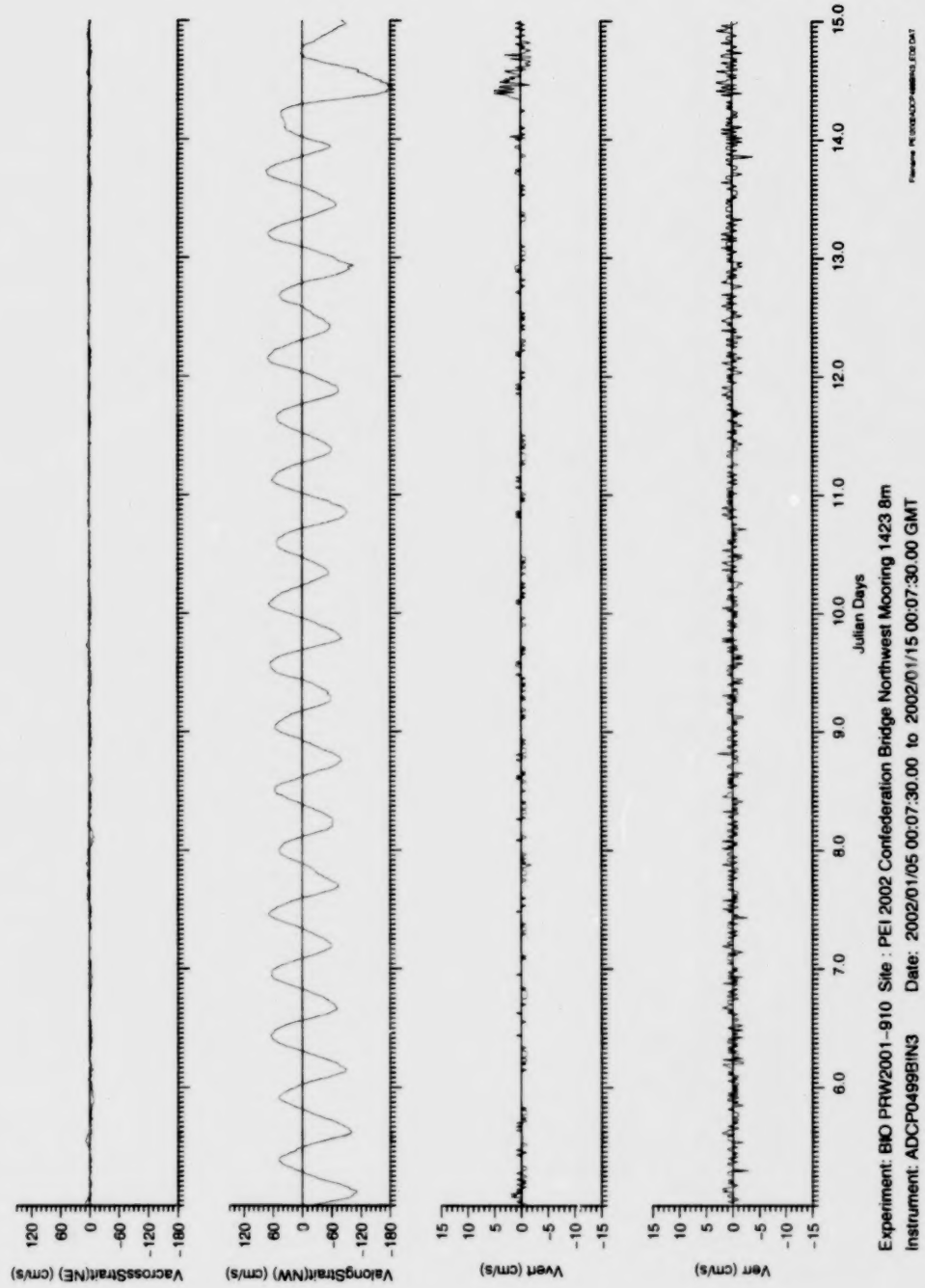
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 12m

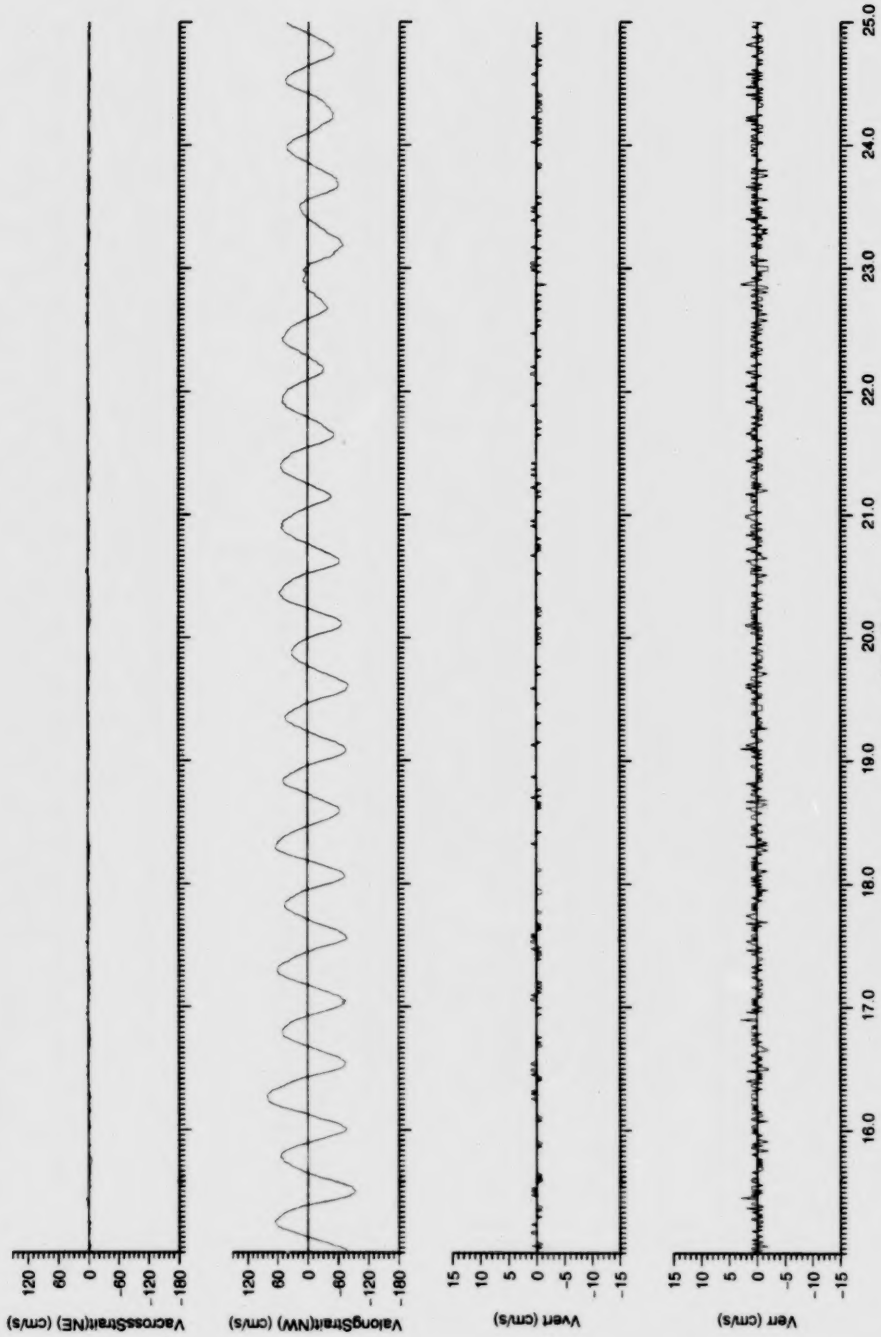
Instrument: ADCP0499BIN1 Date: 2002/04/25 00:07:30.00 to 2002/05/01 16:07:30.00 GMT

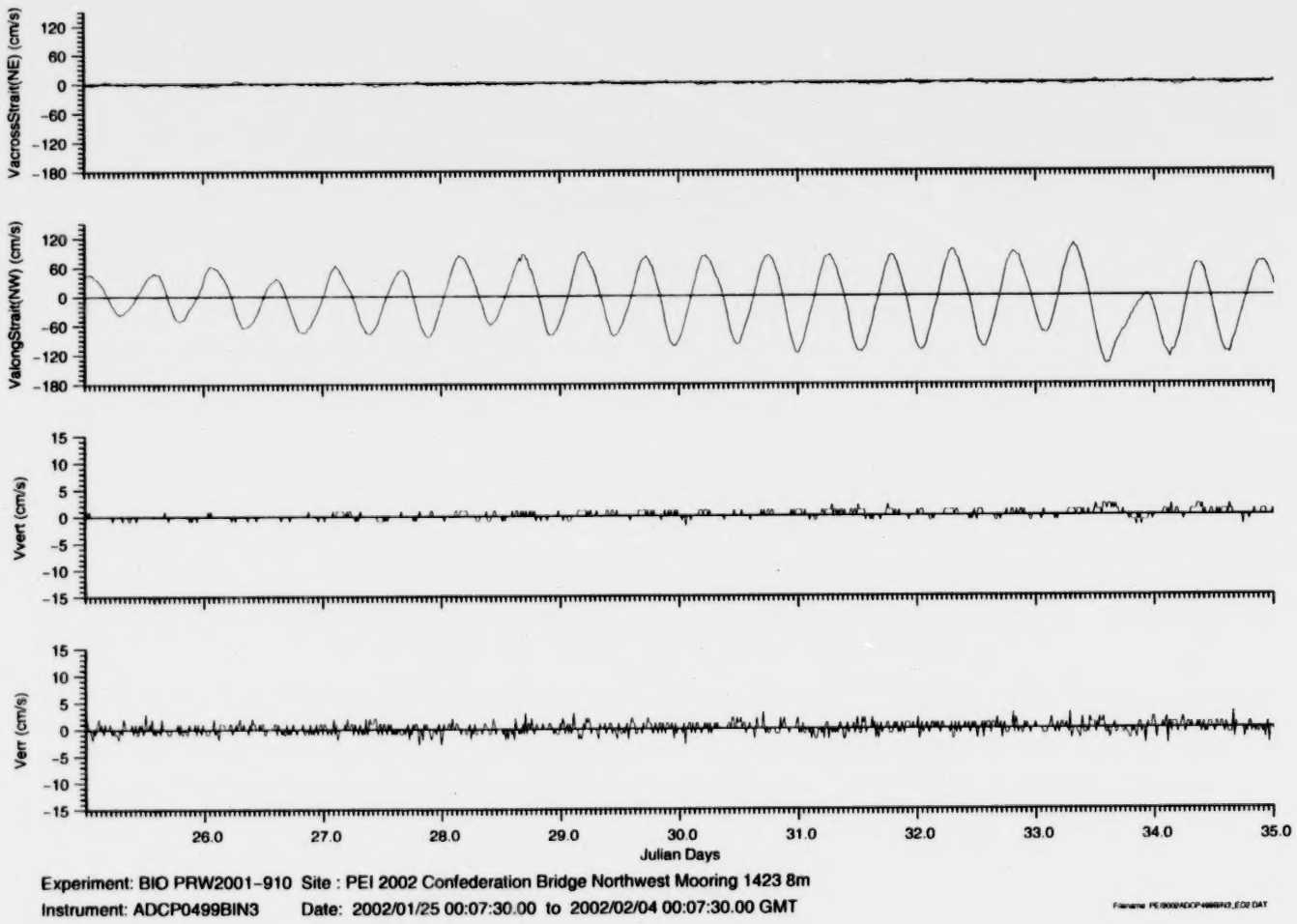

AcrossStrait(NE) (cm/s)
AlongStrait(NW) (cm/s)
Vert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
340.0
341.0
342.0
343.0
344.0
345.0
346.0
347.0
348.0
349.0
350.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2001/12/09 20:07:30.00 to 2001/12/16 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
VlongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
351.0
352.0
353.0
354.0
355.0
356.0
357.0
358.0
359.0
360.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP04998IN3 Date: 2001/12/16 00:07:30.00 to 2001/12/26 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
361.0
362.0
363.0
364.0
365.0
1.0
2.0
3.0
4.0
5.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2001/12/26 00:07:30.00 to 2002/01/05 00:07:30.00 GMT

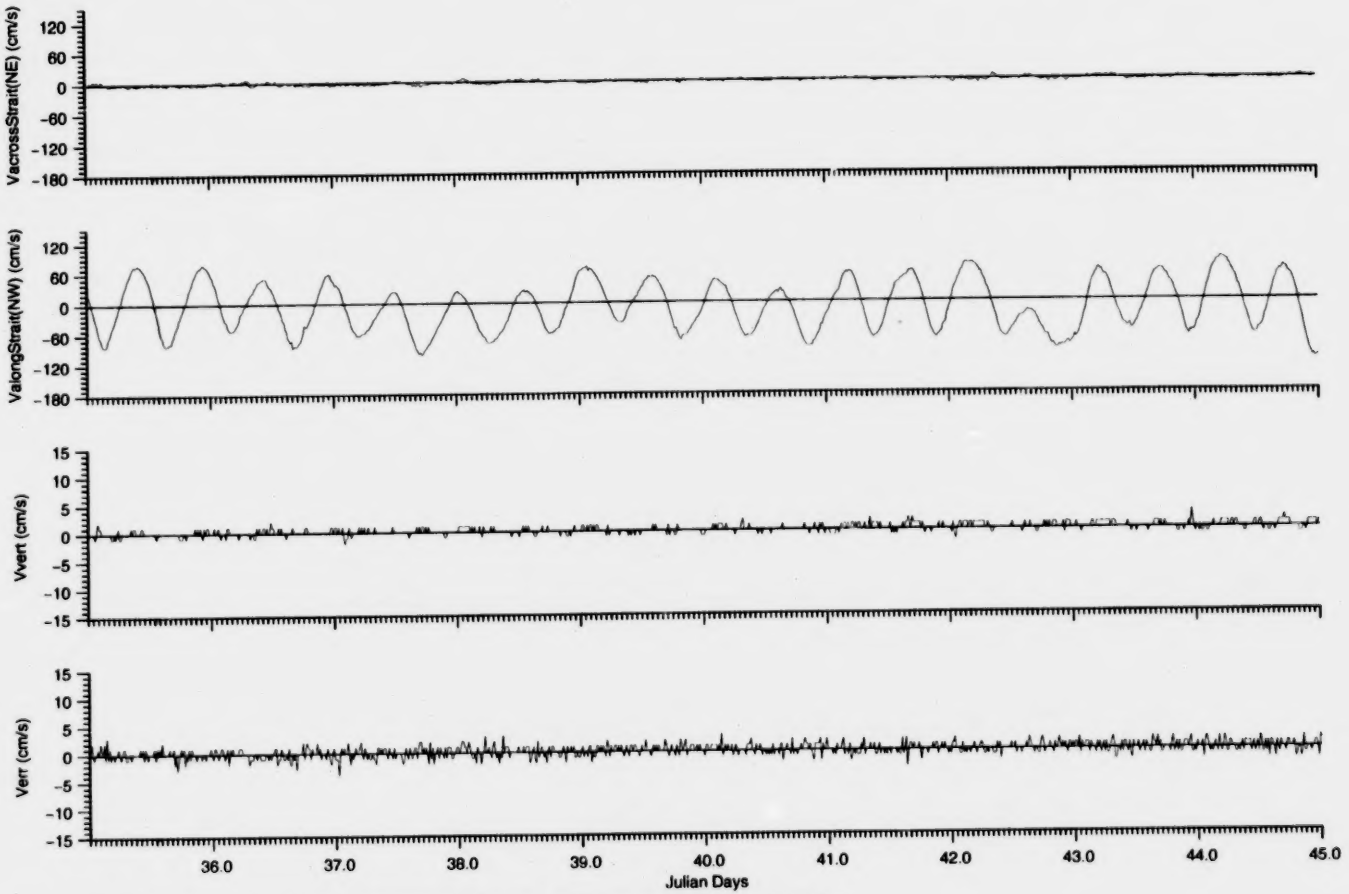

Vacross Strat(NE) (cm/s)
120
60
0
-60
-120
-180
Valong Strat(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP04998IN3 Date: 2002/01/05 00:07:30.00 to 2002/01/15 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2002/01/15 00:07:30.00 to 2002/01/25 00:07:30.00 GMT



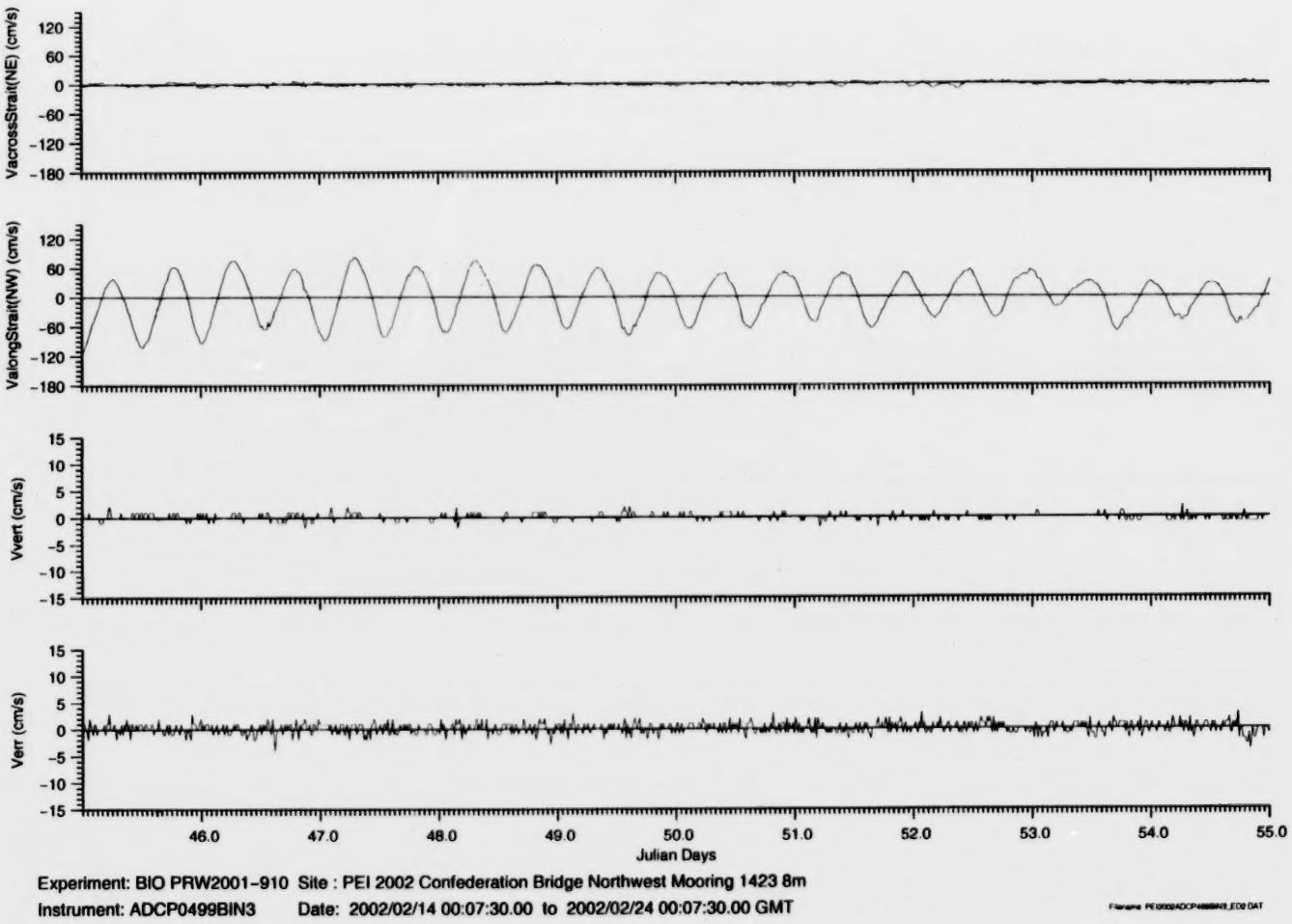
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m

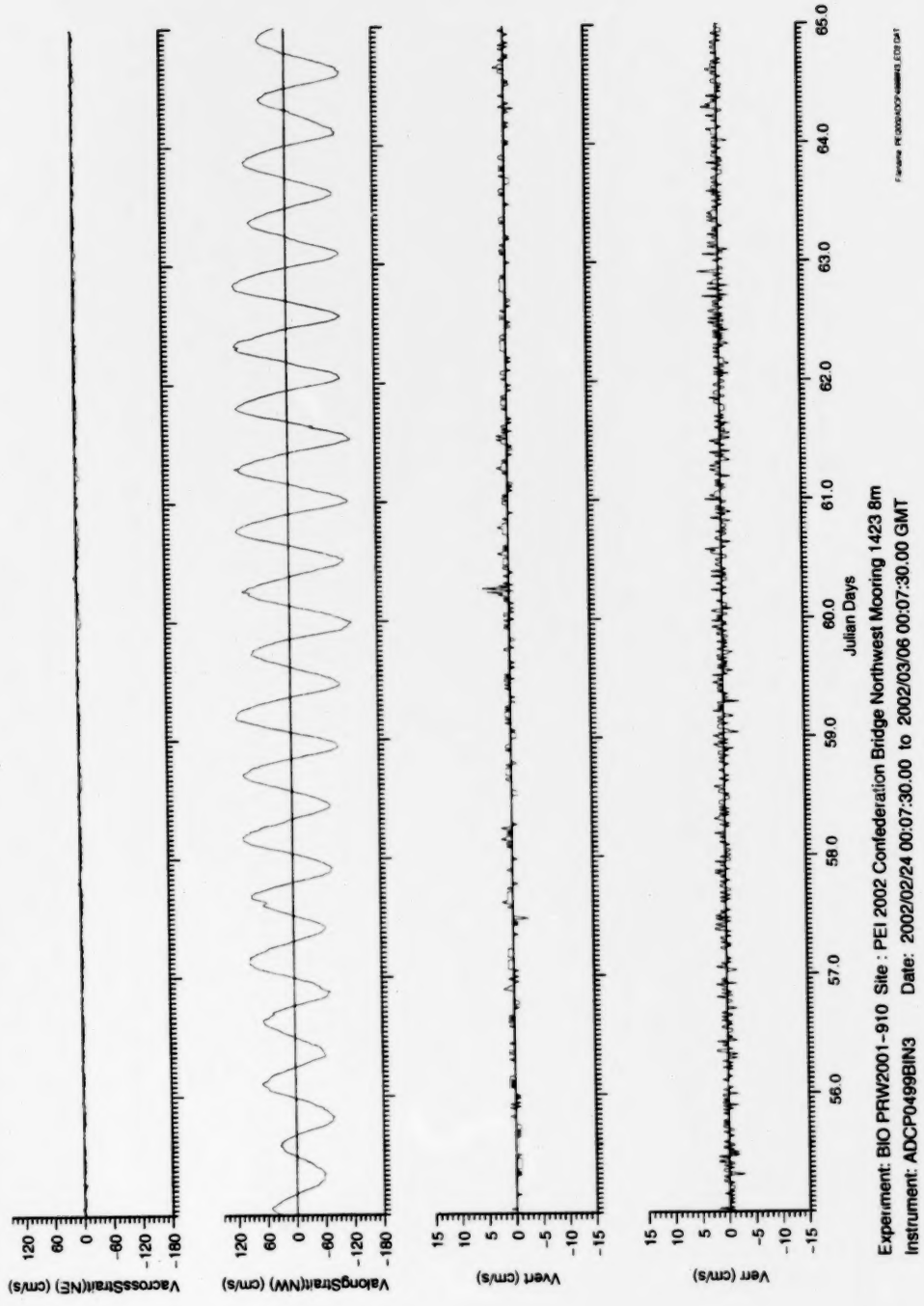
Instrument: ADCP0499BIN3 Date: 2002/01/25 00:07:30.00 to 2002/02/04 00:07:30.00 GMT

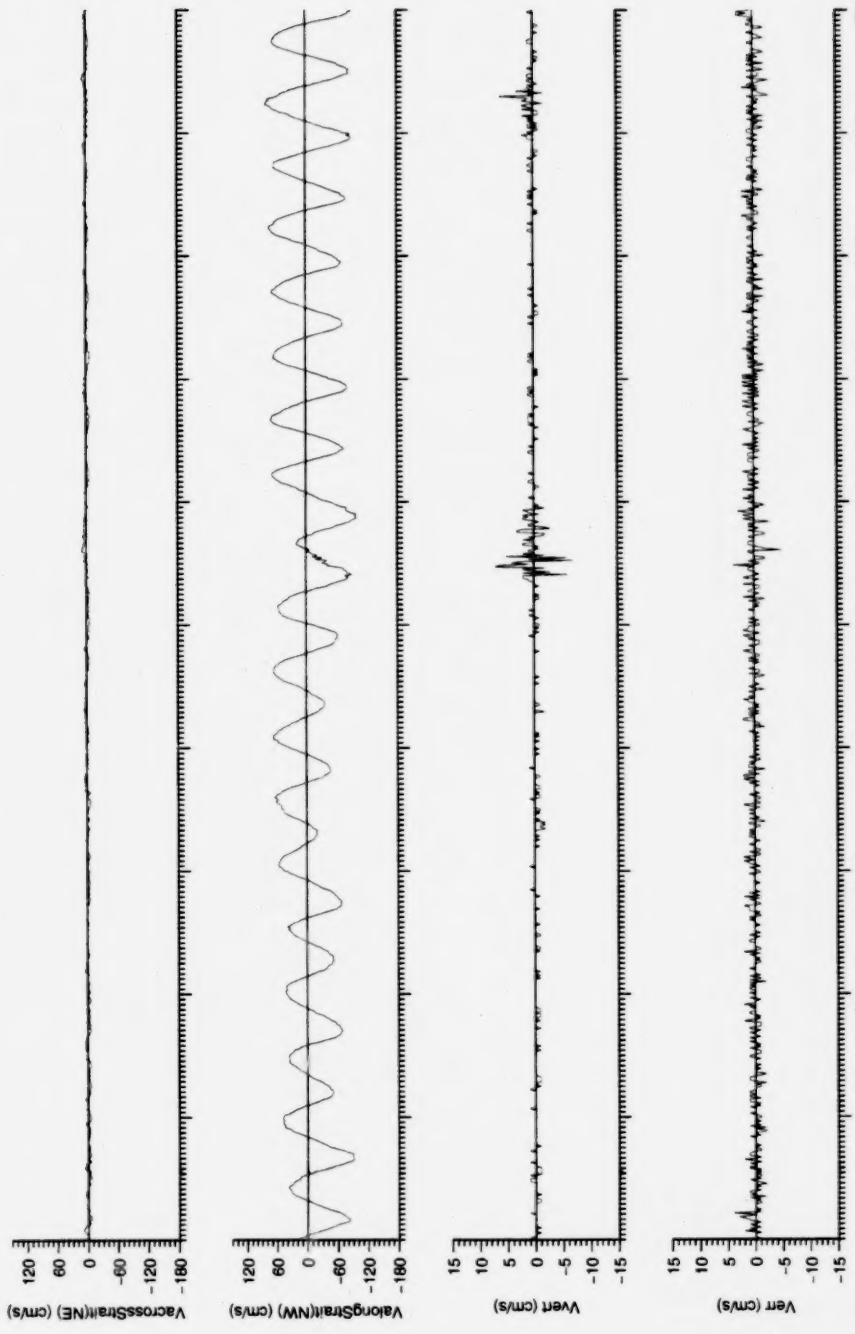


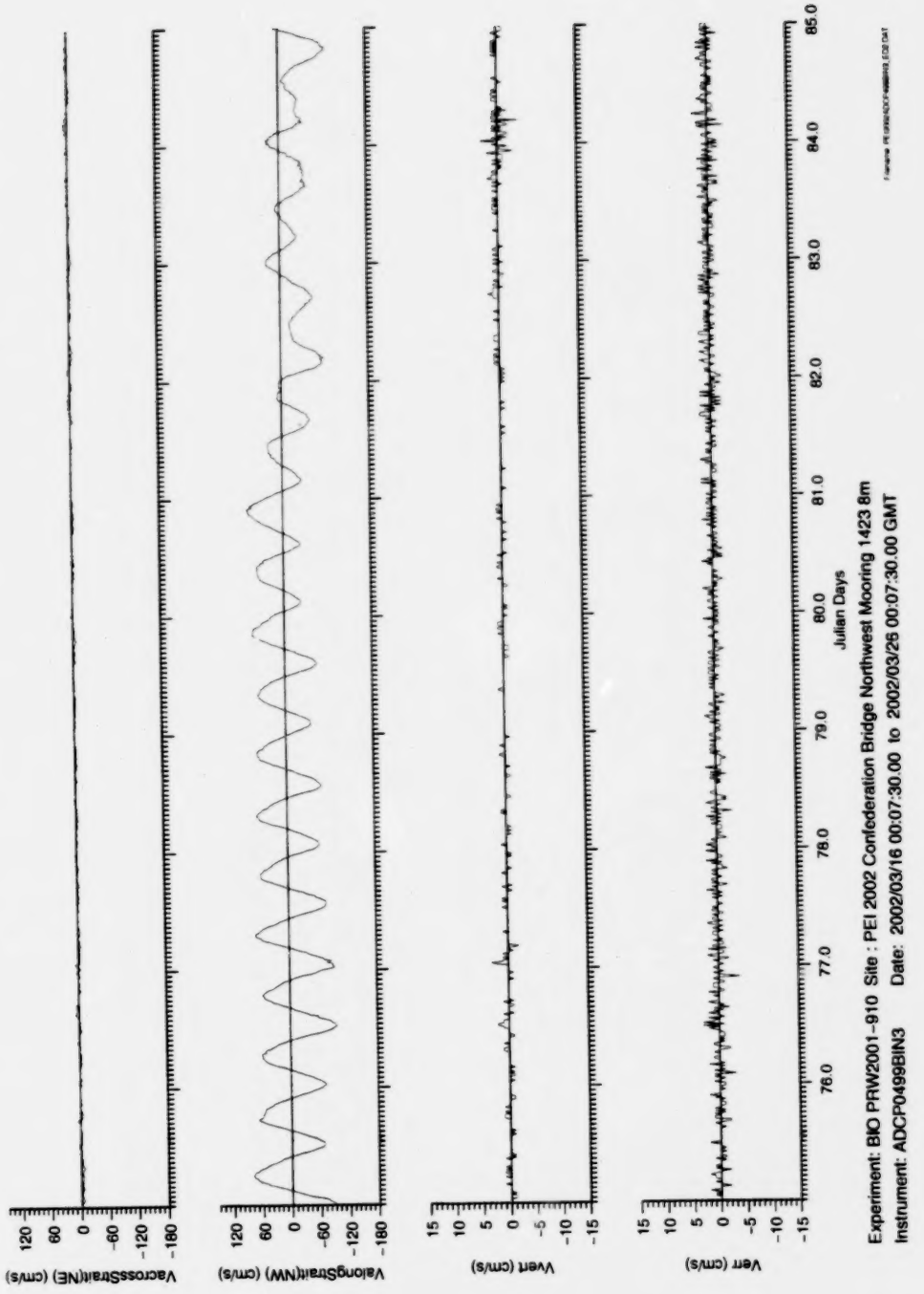
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m

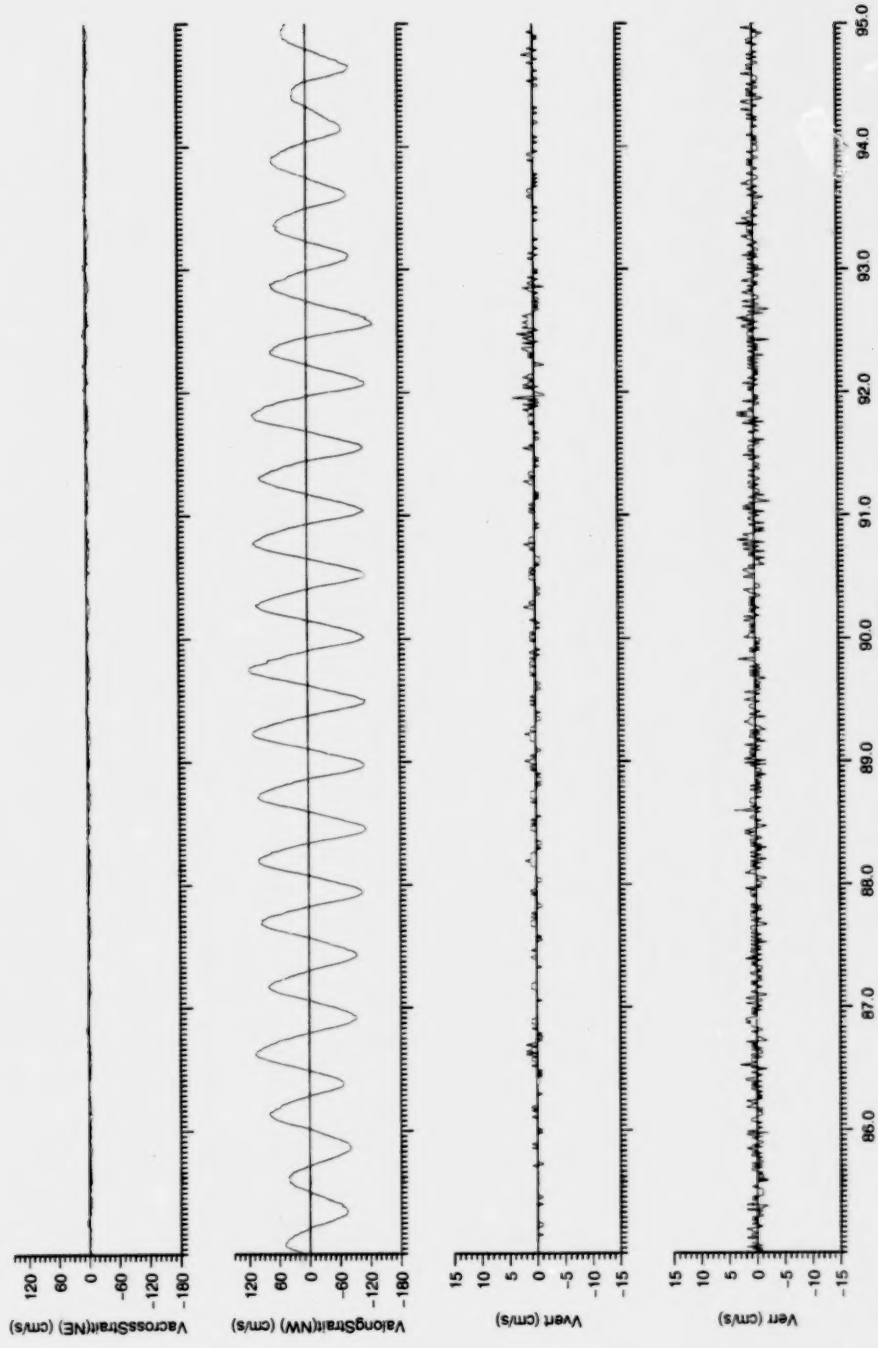
Instrument: ADCP0499BIN3 Date: 2002/02/04 00:07:30.00 to 2002/02/14 00:07:30.00 GMT

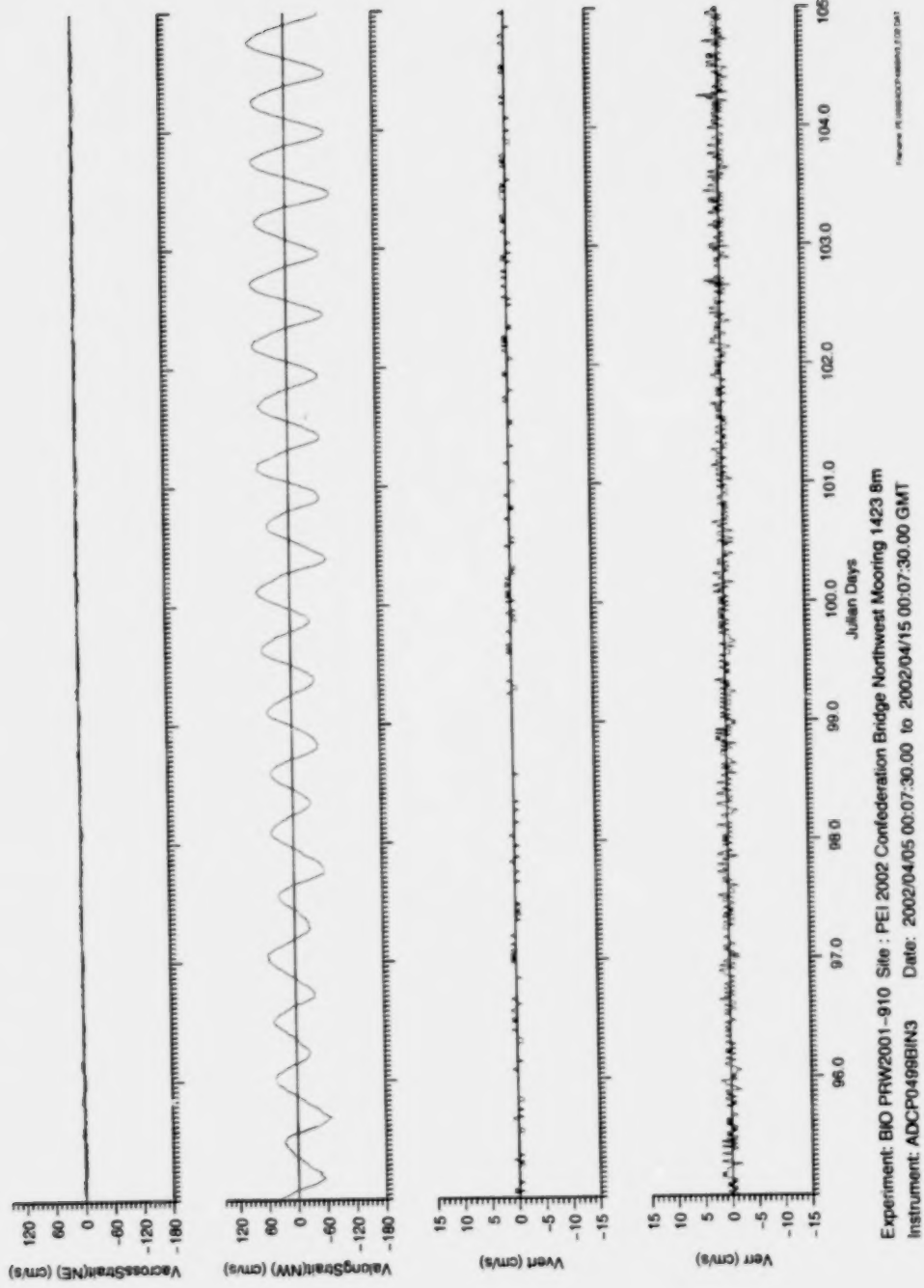

VacrossStrait(NE) (cm/s)
ValongStrait(NW) (cm/s)
Vvert (cm/s)
Verr (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
46.0
47.0
48.0
49.0
50.0
51.0
52.0
53.0
54.0
55.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2002/02/14 00:07:30.00 to 2002/02/24 00:07:30.00 GMT

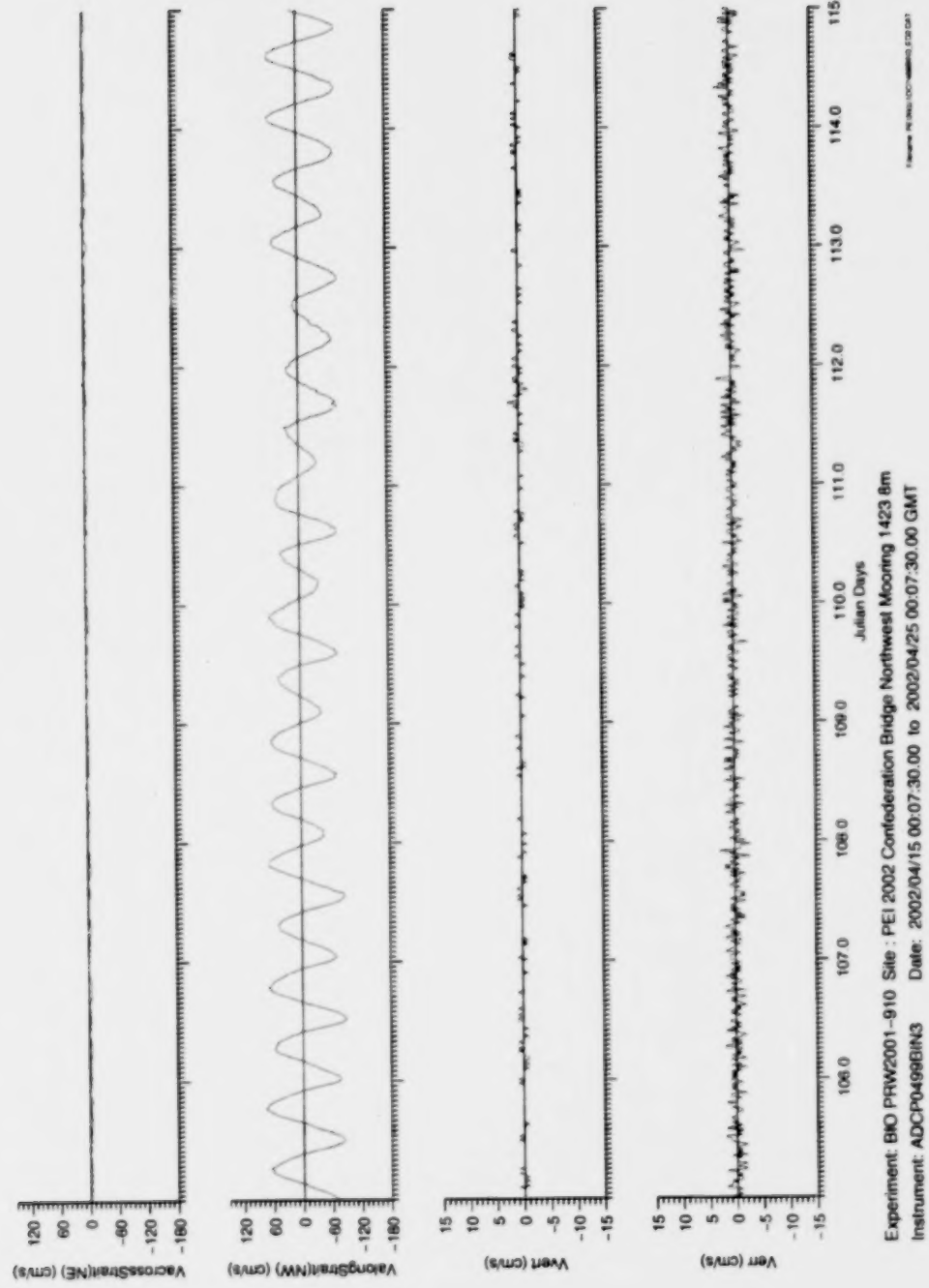

VacrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
ValongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Verr (cm/s)
15
10
5
0
-5
-10
-15
56.0
57.0
58.0
59.0
60.0
61.0
62.0
63.0
64.0
65.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2002/02/24 00:07:30.00 to 2002/03/06 00:07:30.00 GMT

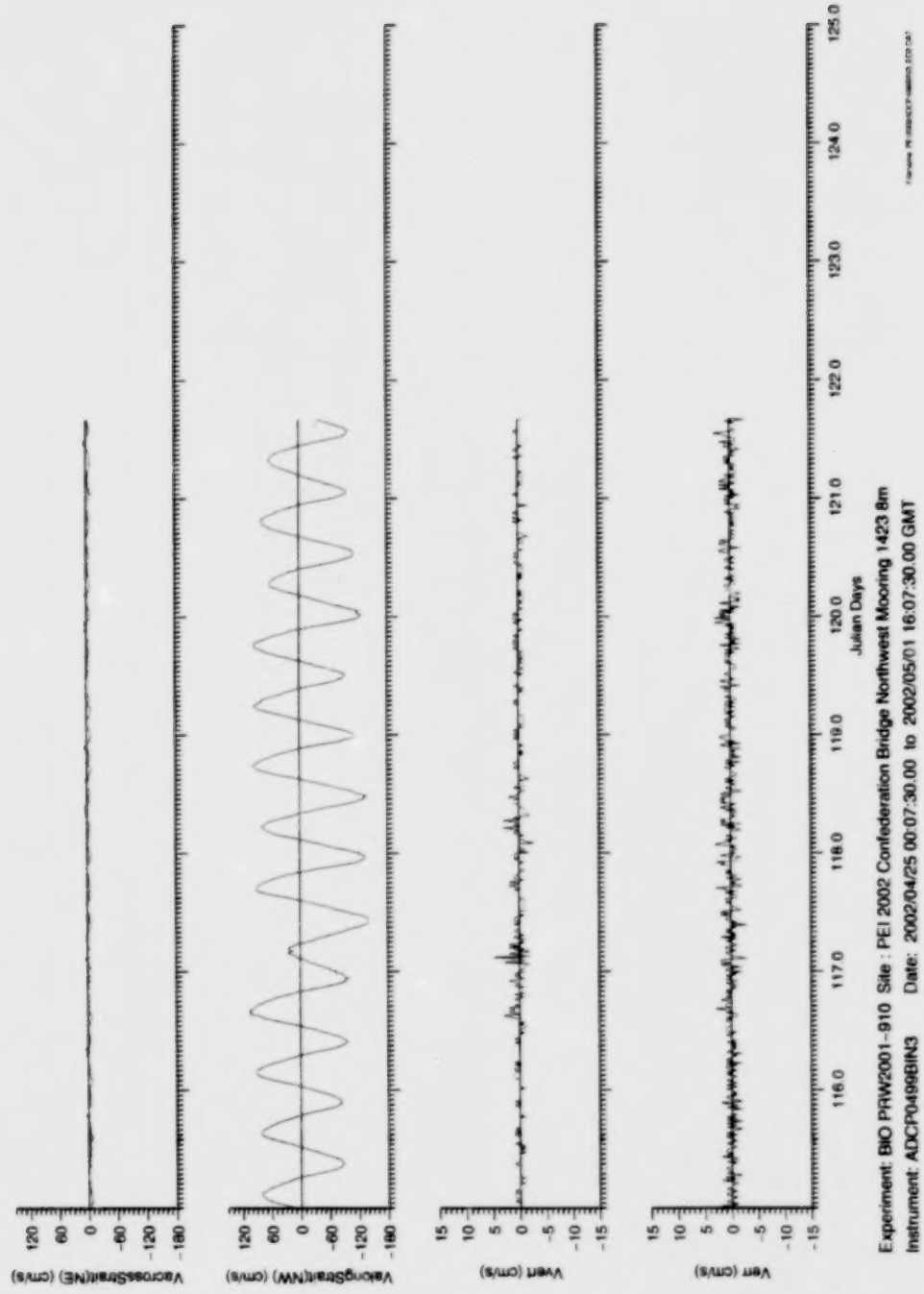

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
66.0
67.0
68.0
69.0
70.0
71.0
72.0
73.0
74.0
75.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2002/03/06 00:07:30.00 to 2002/03/16 00:07:30.00 GMT

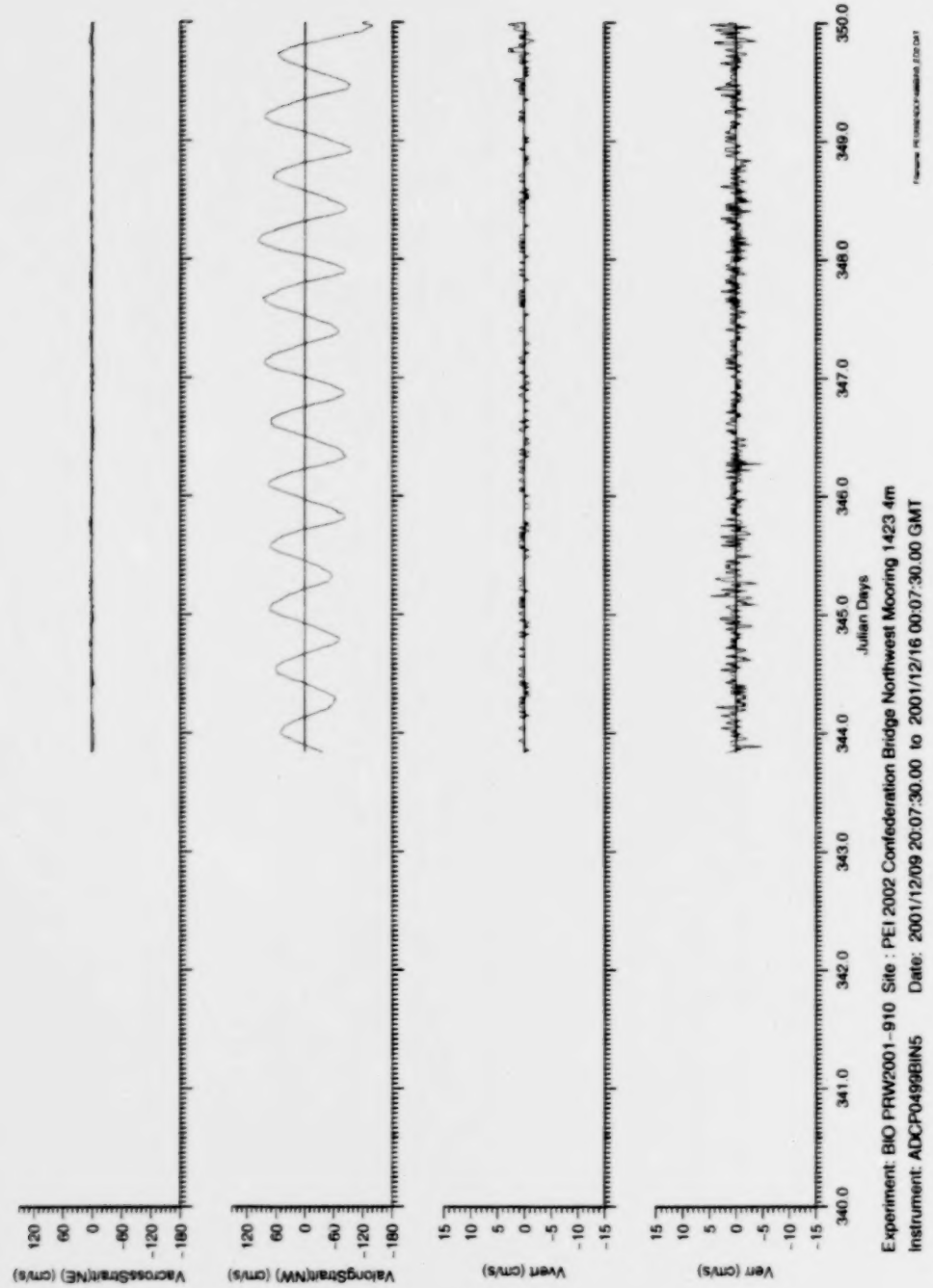

VacrossStrait(NE) (cm/s)
ValongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
76.0
77.0
78.0
79.0
80.0
81.0
82.0
83.0
84.0
85.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2002/03/16 00:07:30.00 to 2002/03/26 00:07:30.00 GMT

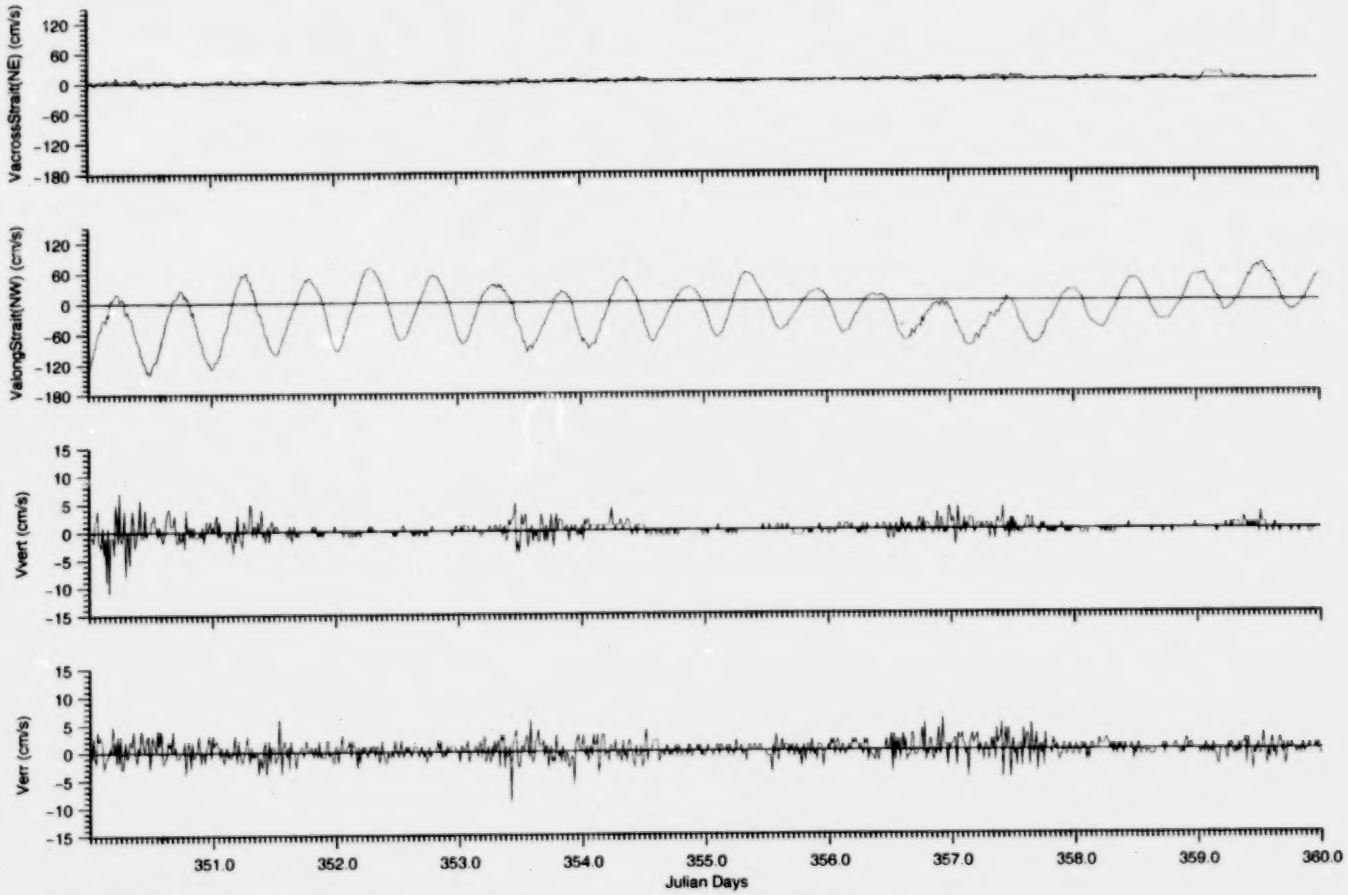

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
86.0
87.0
88.0
89.0
90.0
91.0
92.0
93.0
94.0
95.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP0499BIN3 Date: 2002/03/26 00:07:30.00 to 2002/04/05 00:07:30.00 GMT


Vacross Strait(NE) (cm/s)
120
60
0
-60
-120
-180
Valong Strait(NW) (cm/s)
120
60
0
-60
-120
-180
Vert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
96.0
97.0
98.0
99.0
100.0
101.0
102.0
103.0
104.0
105.0
Julian Days
Experiment: BIO PRW2001--910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP04998IN3 Date: 2002/04/05 00:07:30.00 to 2002/04/15 00:07:30.00 GMT


VacrossStrat(NE) (cm/s)
120
60
0
-60
-120
-180
Valongstrat(NW) (cm/s)
120
60
0
-60
-120
-180
Vert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
106.0
107.0
108.0
109.0
110.0
111.0
112.0
113.0
114.0
115.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP04998IN3 Date: 2002/04/15 00:07:30.00 to 2002/04/25 00:07:30.00 GMT

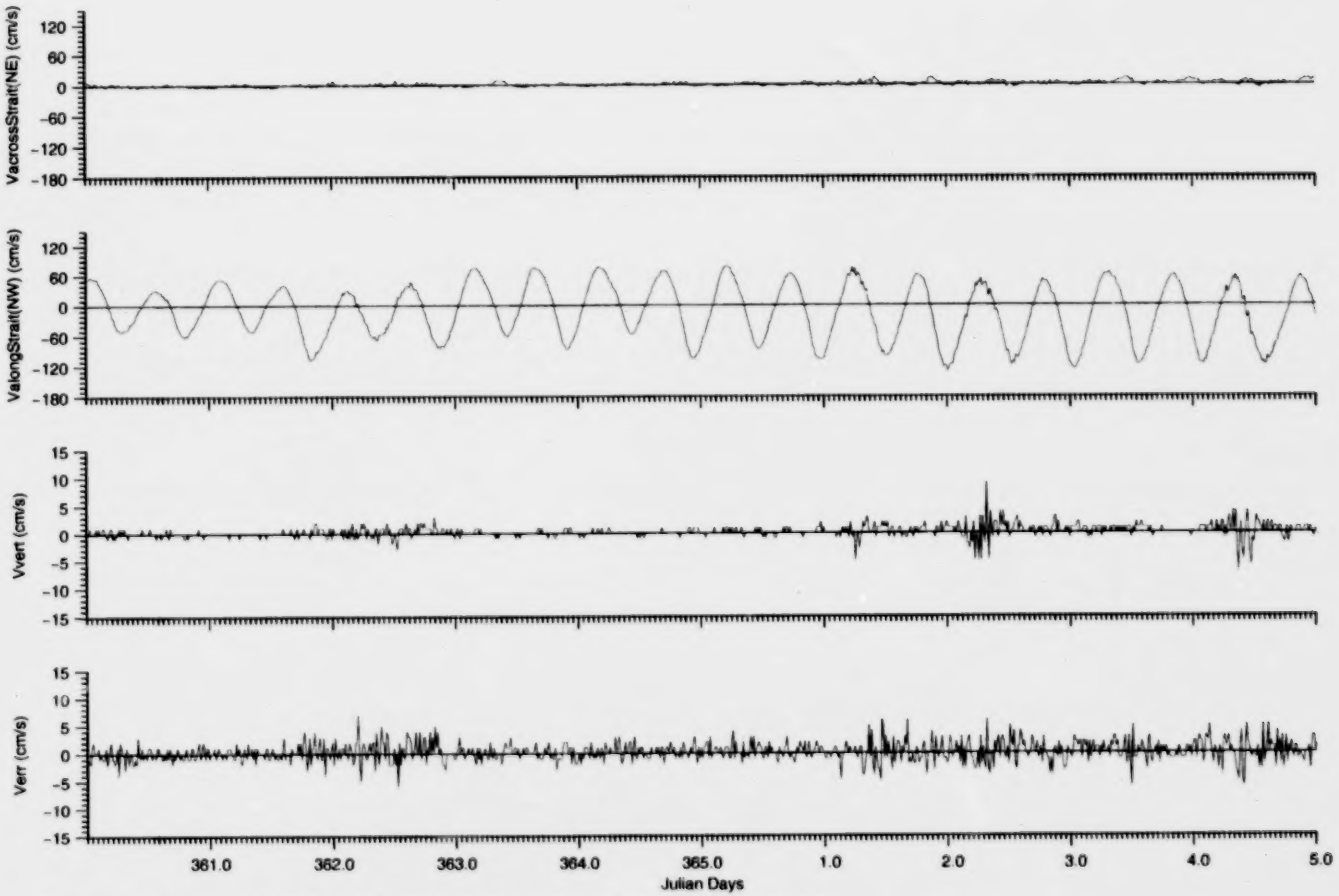

VacrossStrait(NE) (cm/s)
ValongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 8m
Instrument: ADCP04998IN3 Date: 2002/04/25 00:07:30.00 to 2002/05/01 16:07:30.00 GMT

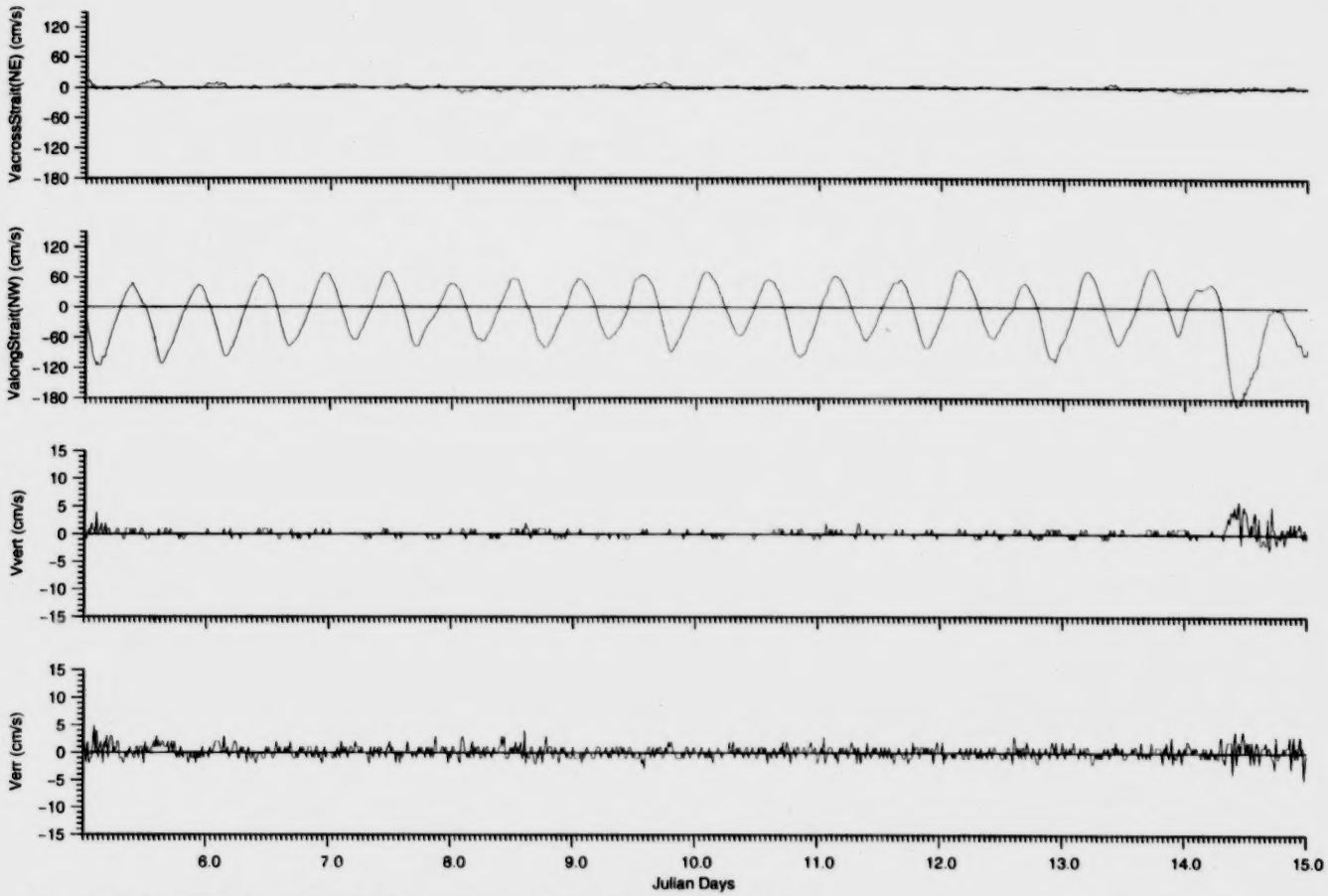

Vacross5Strait(NE) (cm/s)
120
60
0
-60
-120
-180
Valong5Strait(NW) (cm/s)
120
60
0
-60
-120
-180
Vver (cm/s)
15
10
5
0
-5
-10
-15
Verr (cm/s)
15
10
5
0
-5
-10
-15
340.0
341.0
342.0
343.0
344.0
345.0
346.0
347.0
348.0
349.0
350.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2001/12/09 20:07:30.00 to 2001/12/16 00:07:30.00 GMT



Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m

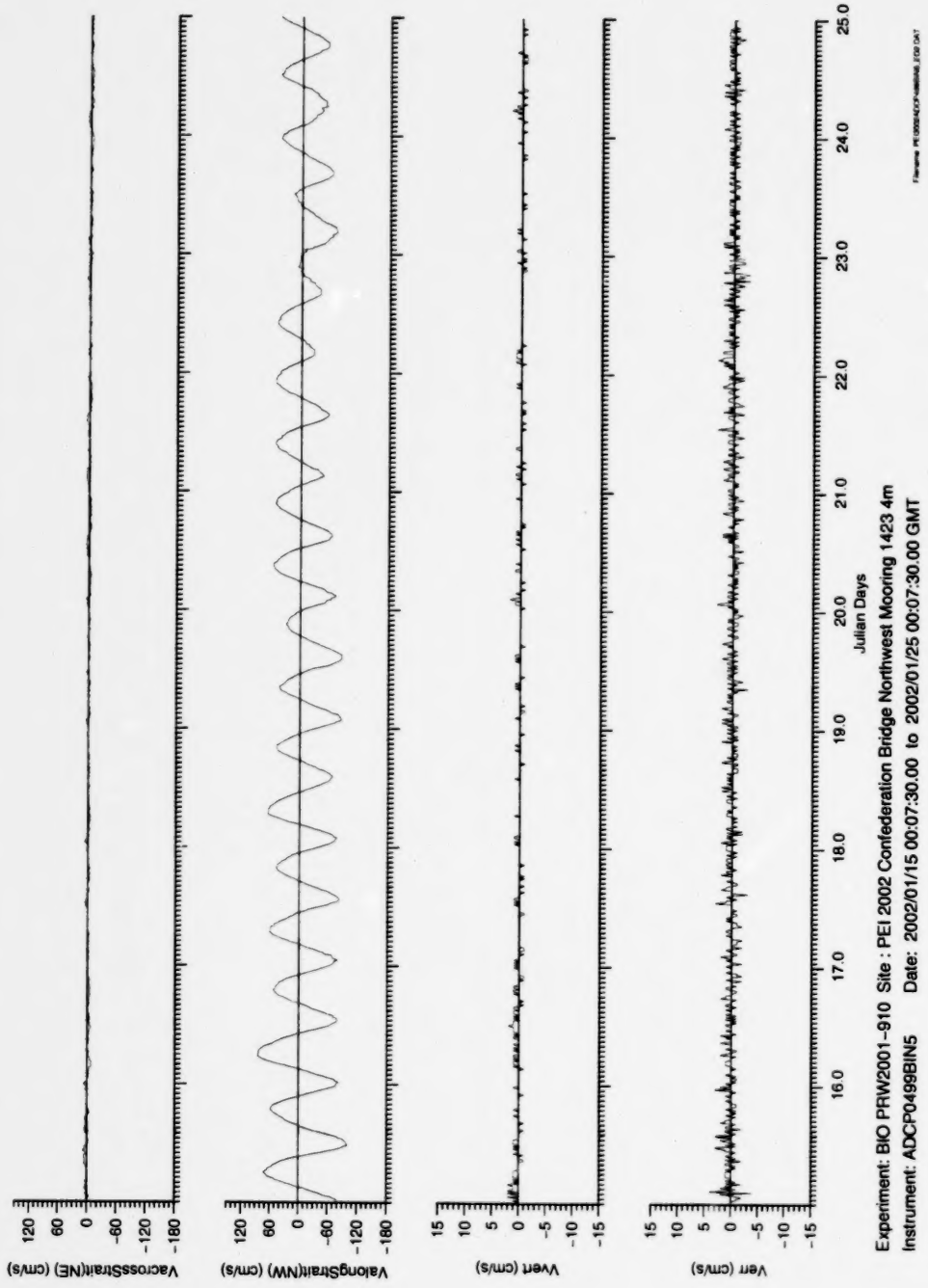
Instrument: ADCP0499BIN5 Date: 2001/12/16 00:07:30.00 to 2001/12/26 00:07:30.00 GMT

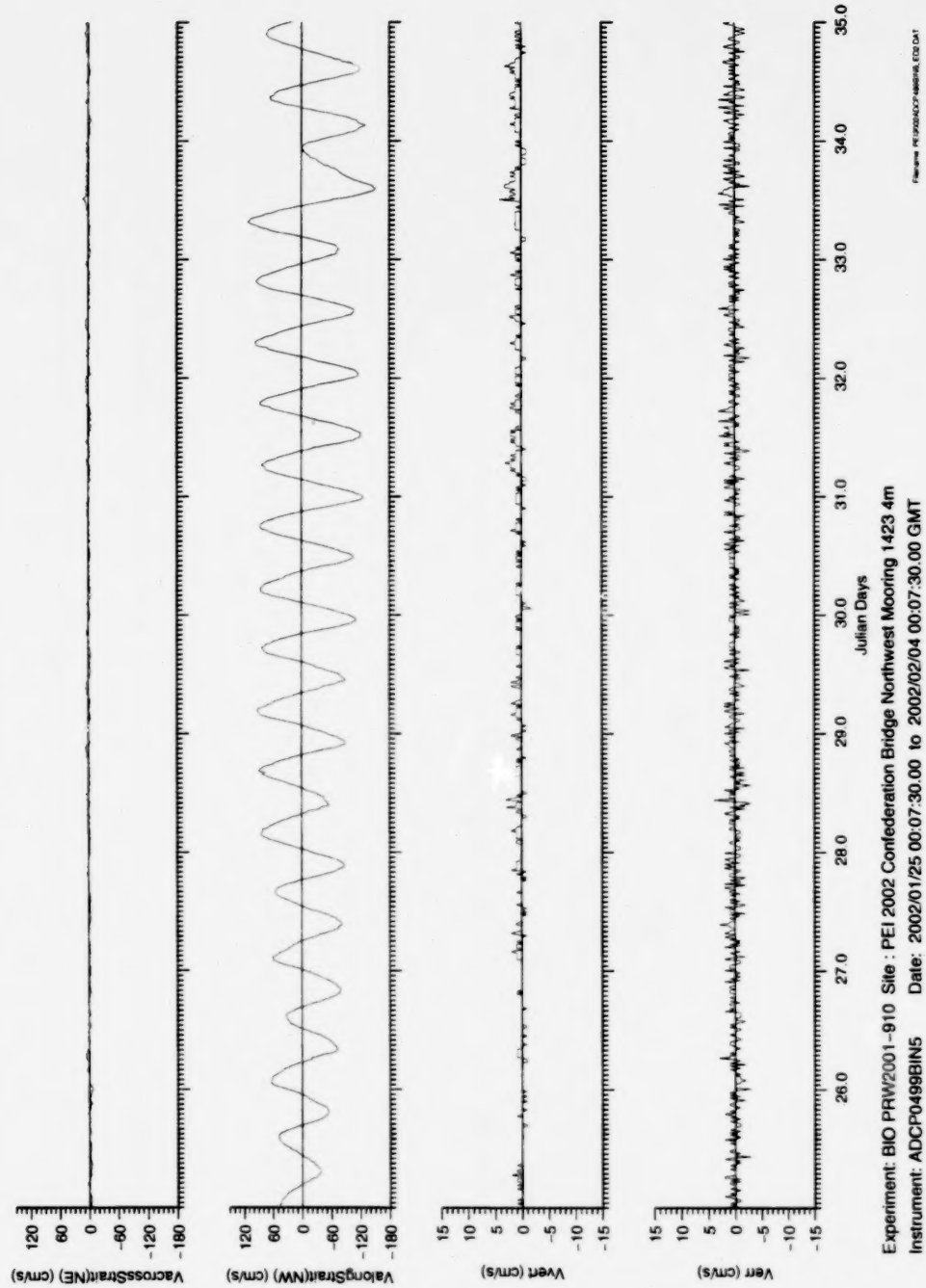

VacrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
ValongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Verr (cm/s)
15
10
5
0
-5
-10
-15
361.0
362.0
363.0
364.0
365.0
1.0
2.0
3.0
4.0
5.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2001/12/26 00:07:30.00 to 2002/01/05 00:07:30.00 GMT

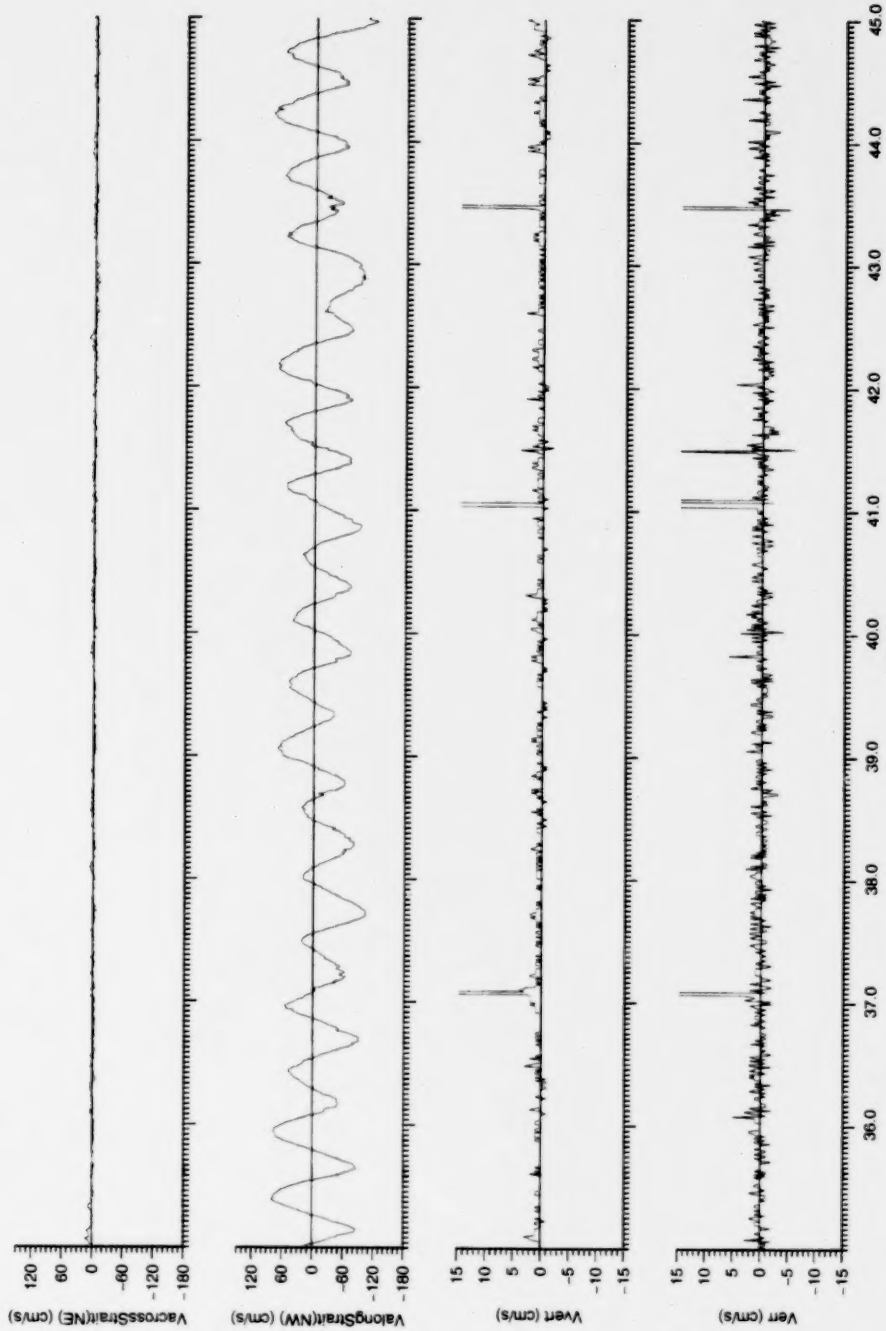


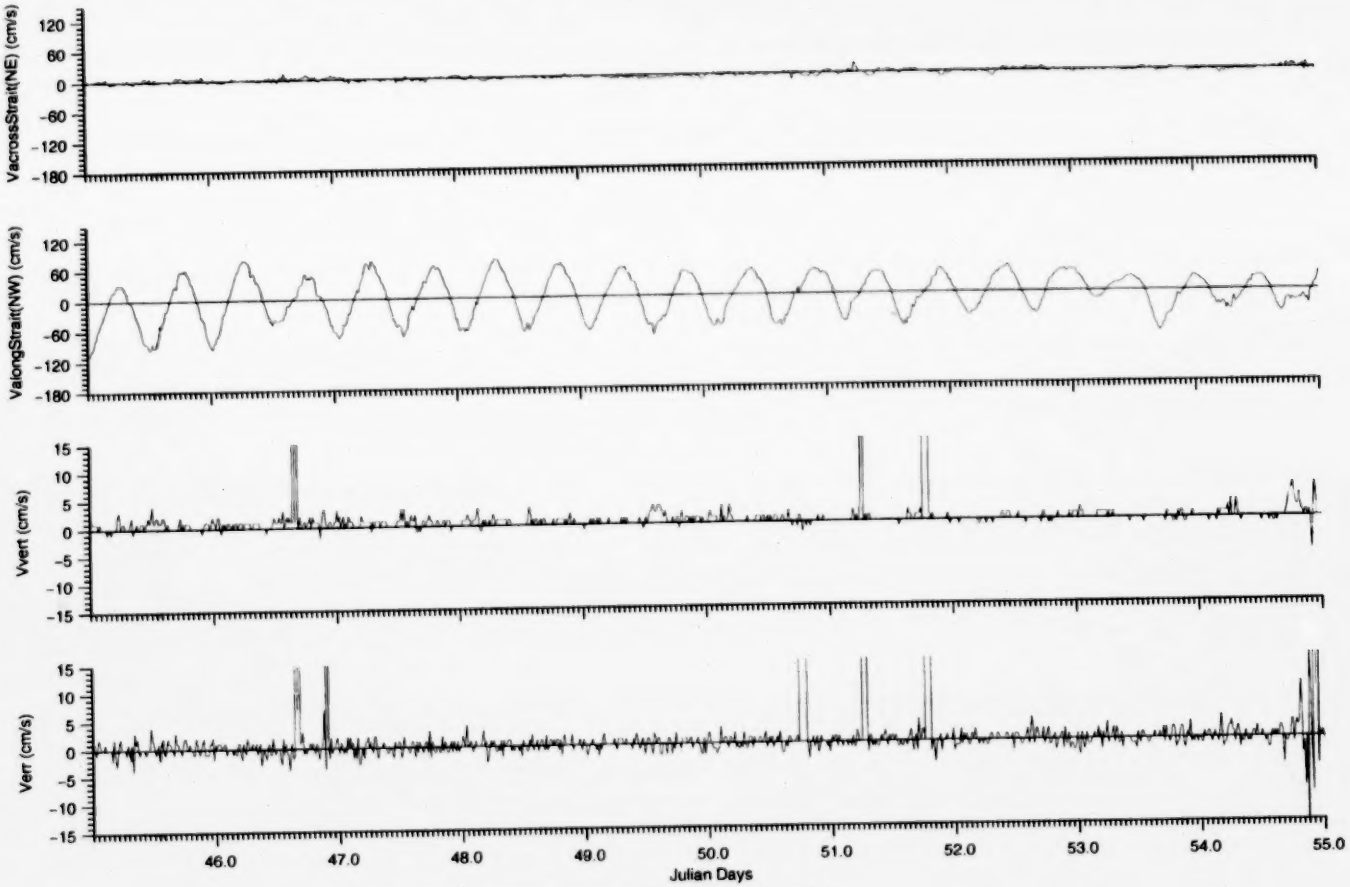
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m

Instrument: ADCP0499BIN5 Date: 2002/01/05 00:07:30.00 to 2002/01/15 00:07:30.00 GMT

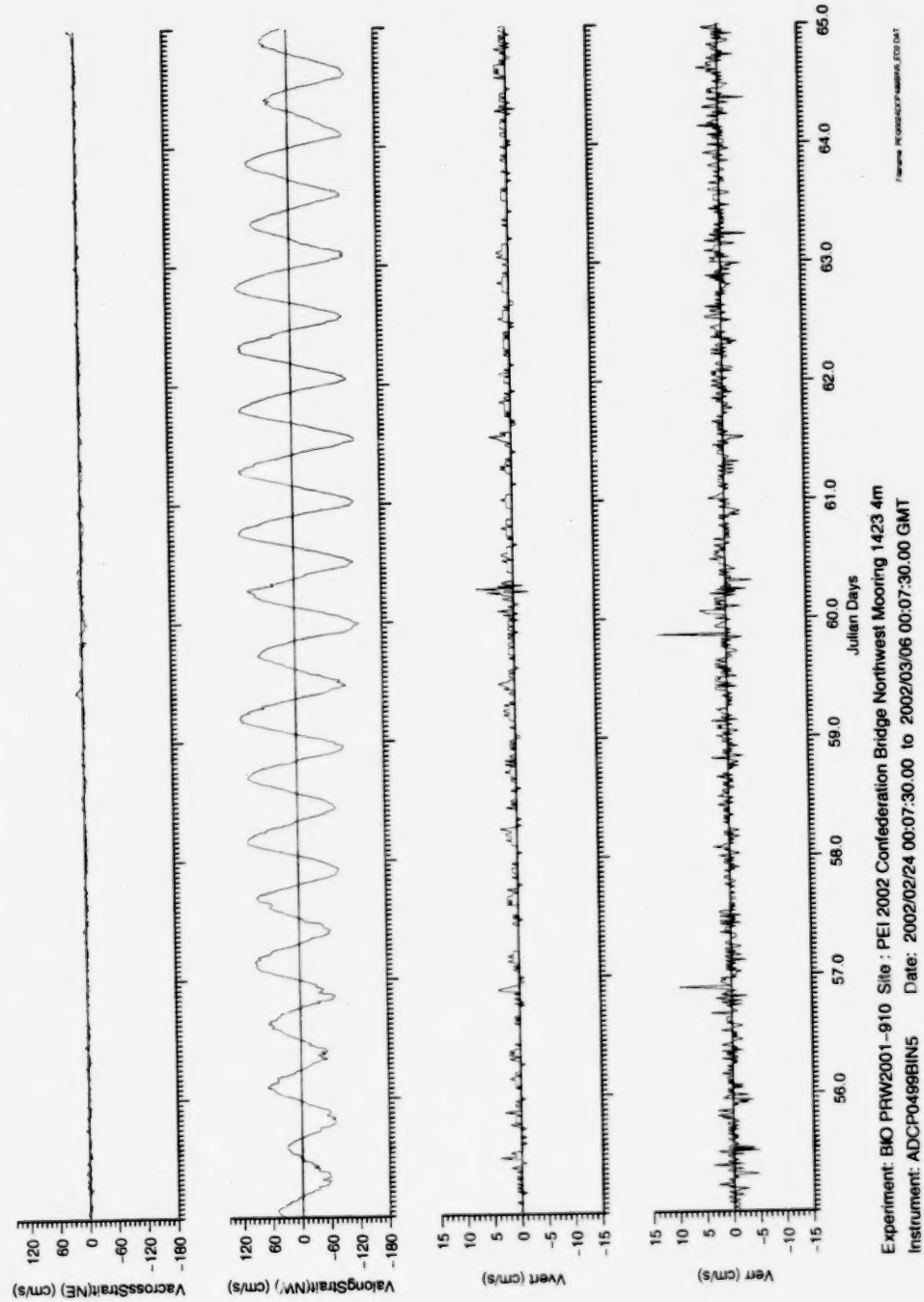

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/01/15 00:07:30.00 to 2002/01/25 00:07:30.00 GMT

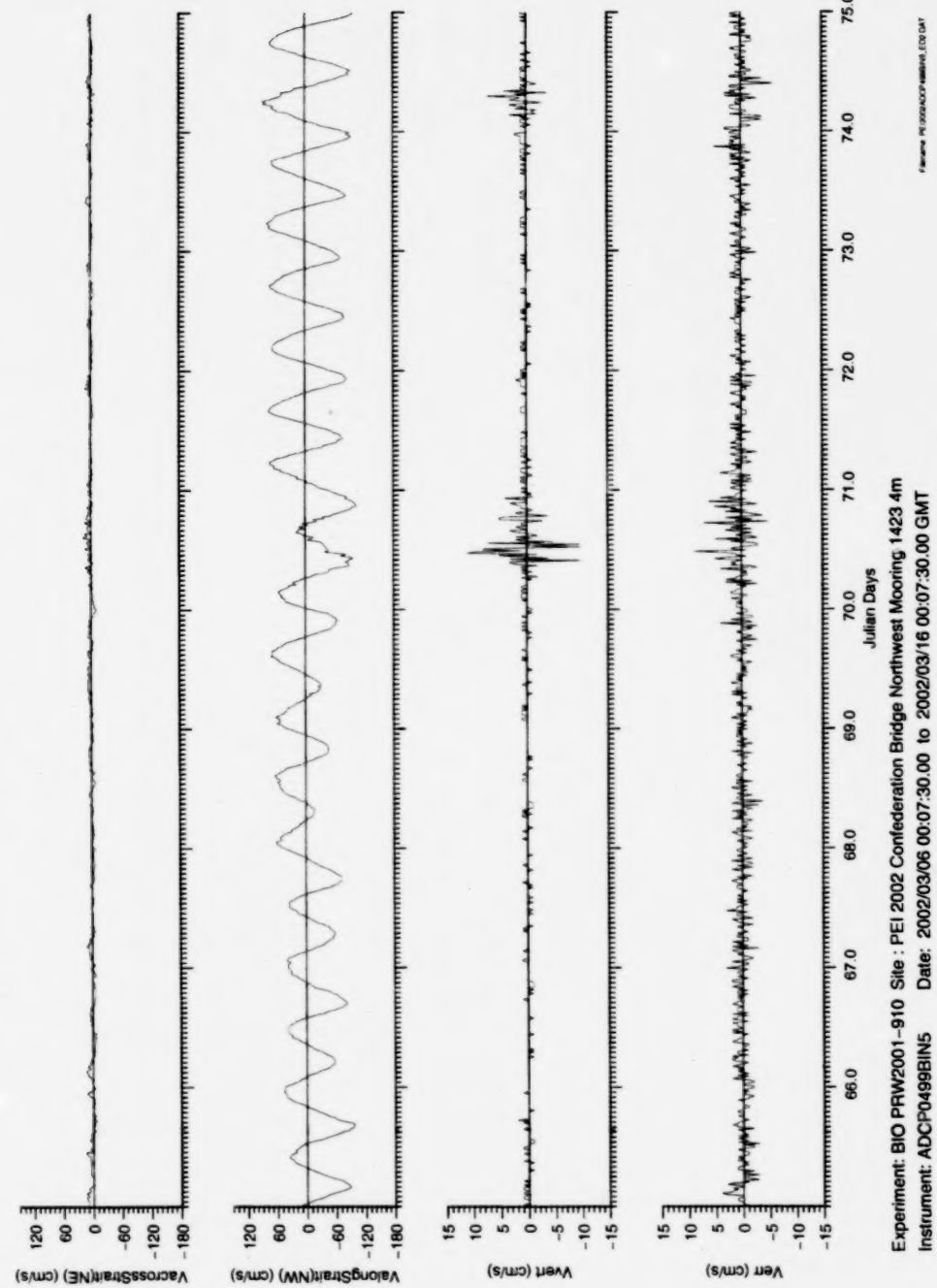

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Verr (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
26.0
27.0
28.0
29.0
30.0
31.0
32.0
33.0
34.0
35.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/01/25 00:07:30.00 to 2002/02/04 00:07:30.00 GMT

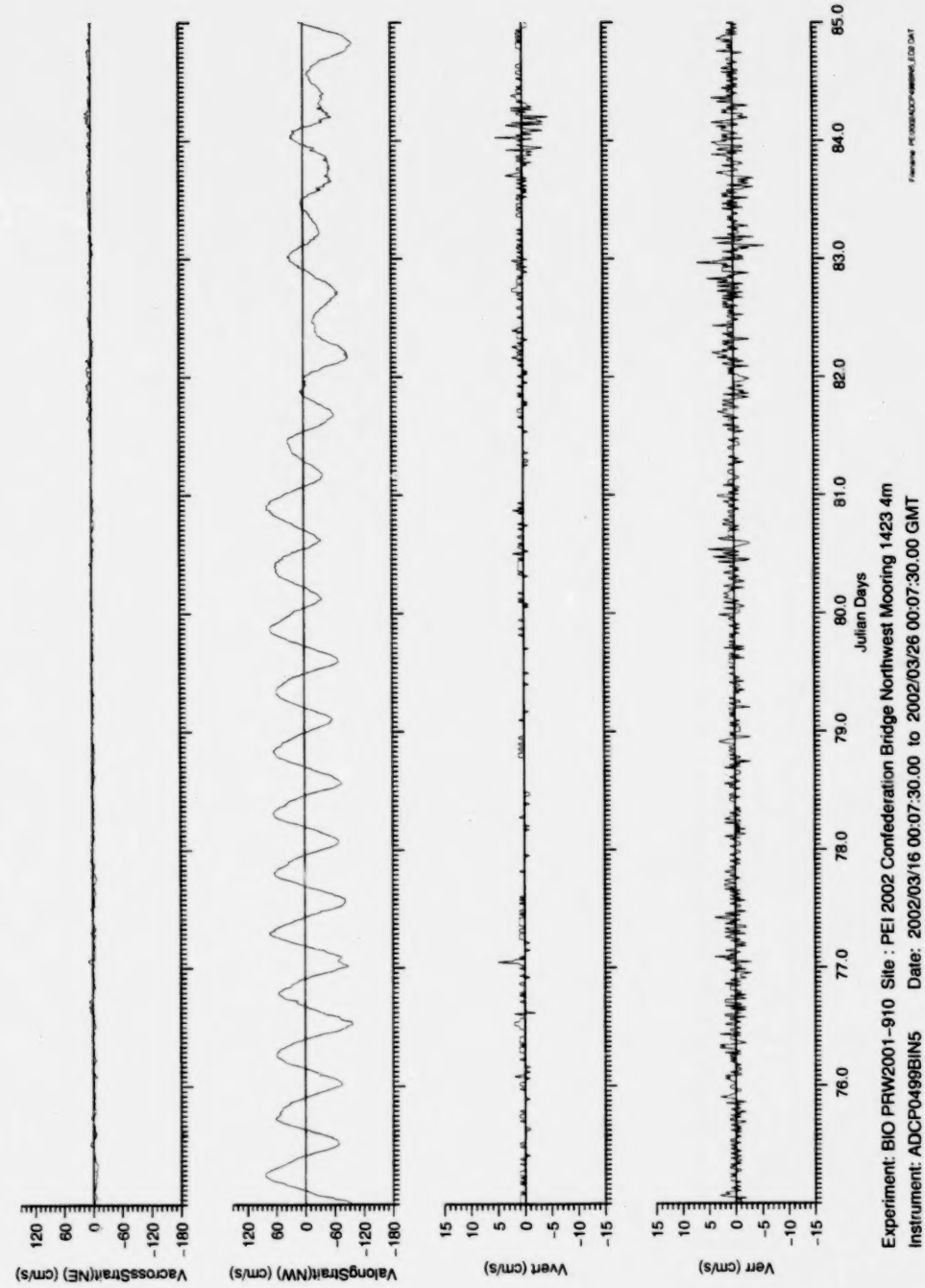

VacrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
VlongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
36.0
37.0
38.0
39.0
40.0
41.0
42.0
43.0
44.0
45.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/02/04 00:07:30.00 to 2002/02/14 00:07:30.00 GMT

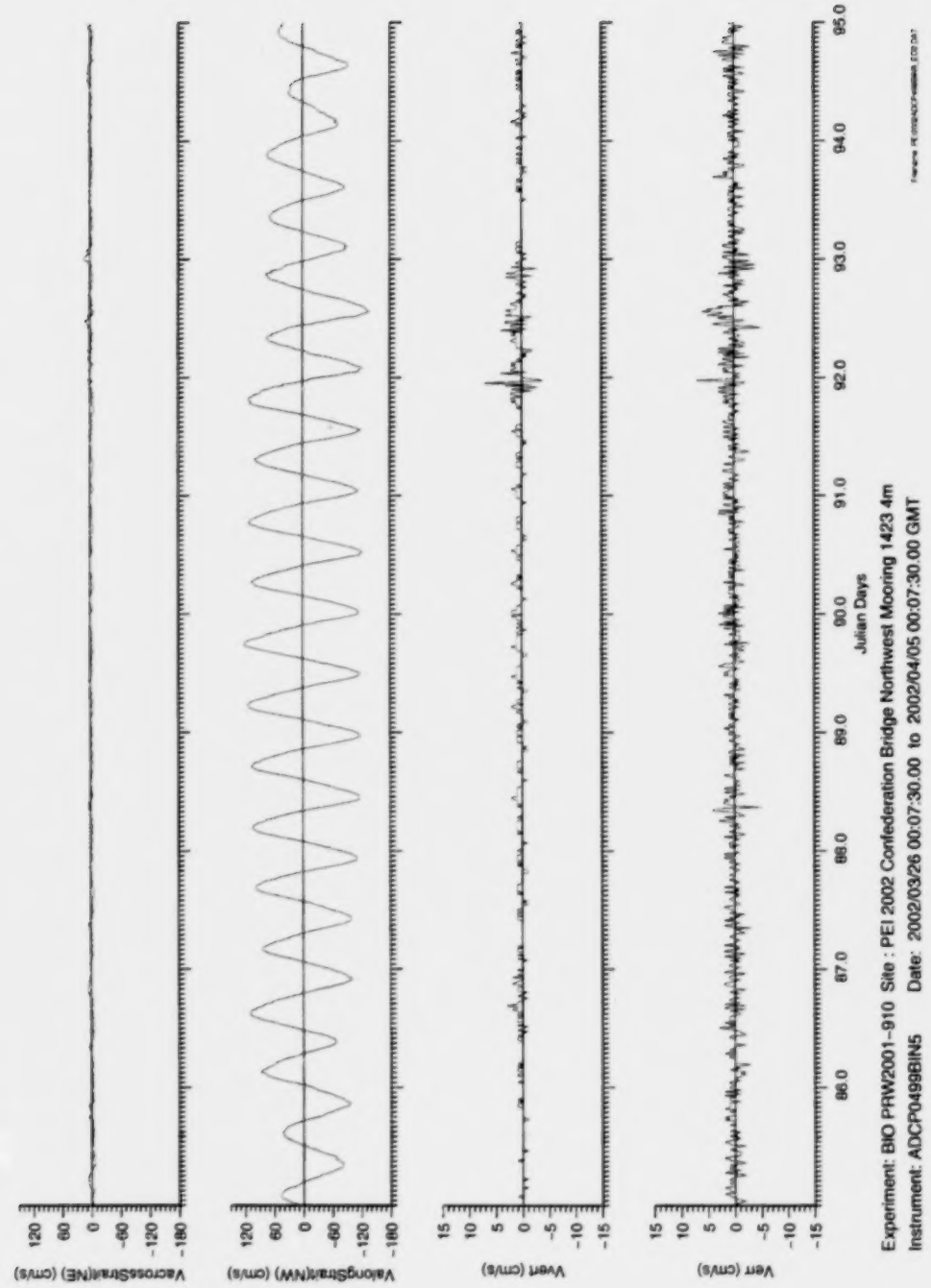


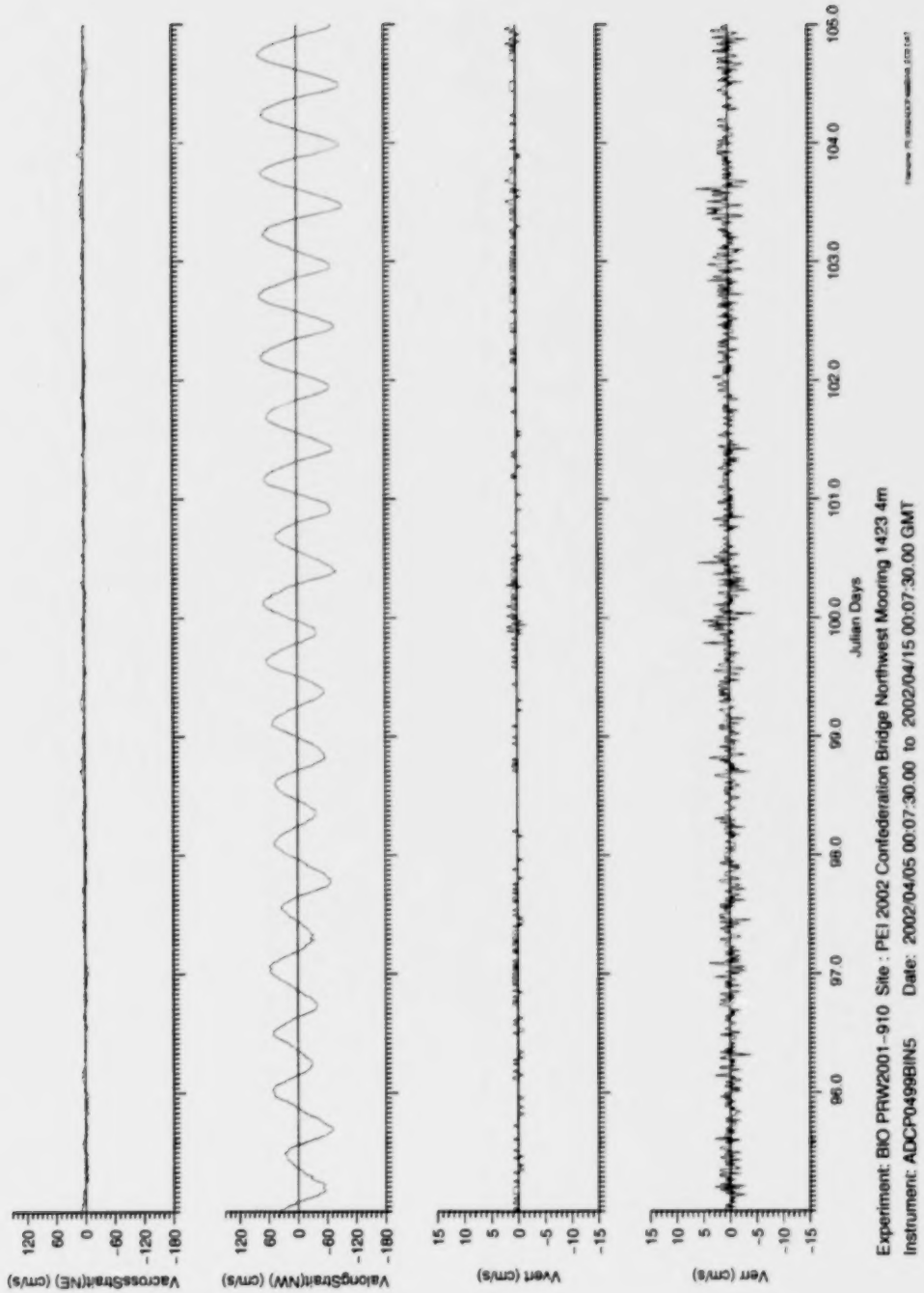
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/02/14 00:07:30.00 to 2002/02/24 00:07:30.00 GMT

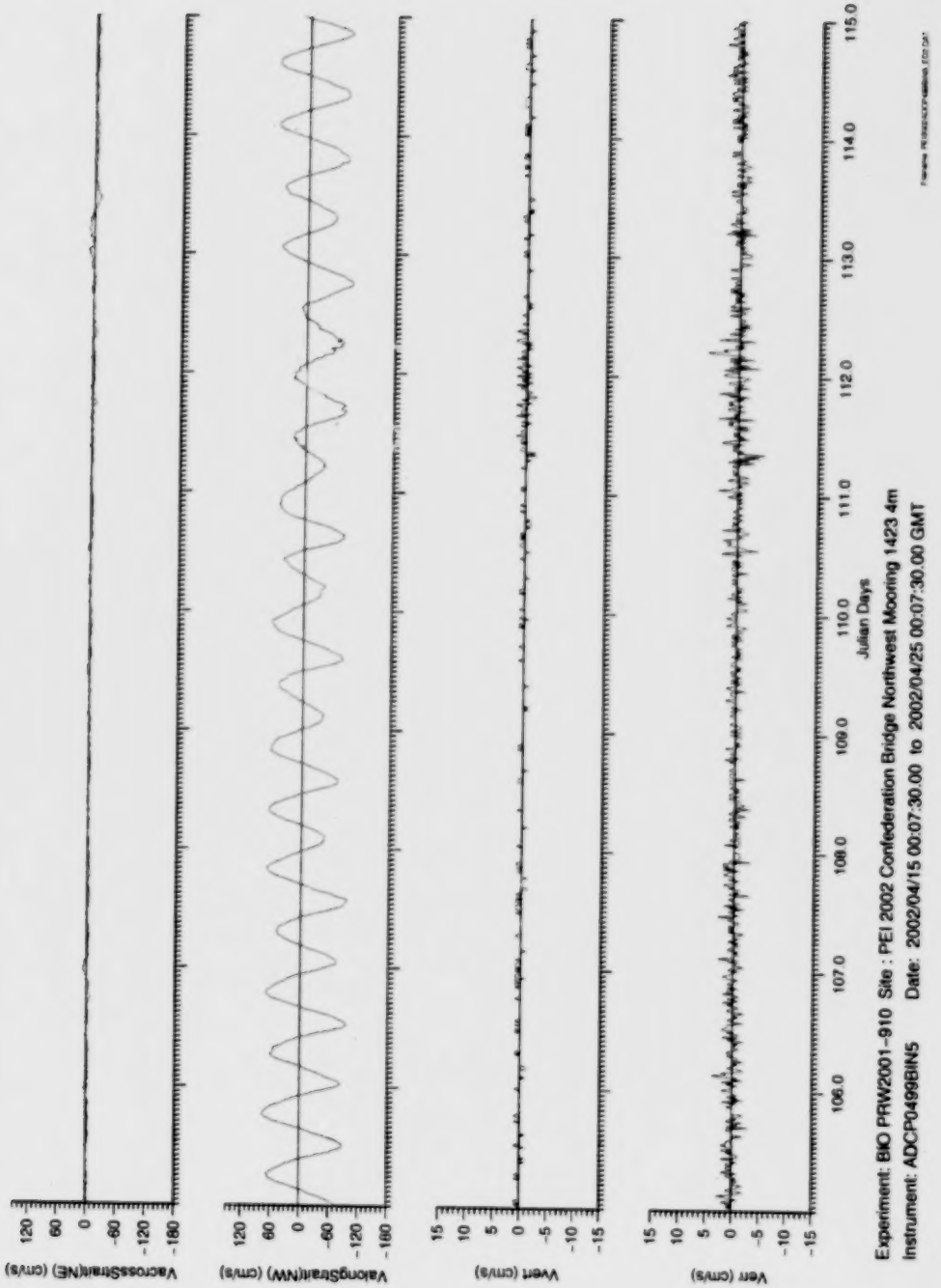

VacrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
VlongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vver (cm/s)
15
10
5
0
-5
-10
-15
Ver (cm/s)
15
10
5
0
-5
-10
-15
56.0
57.0
58.0
59.0
60.0
61.0
62.0
63.0
64.0
65.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/02/24 00:07:30.00 to 2002/03/06 00:07:30.00 GMT

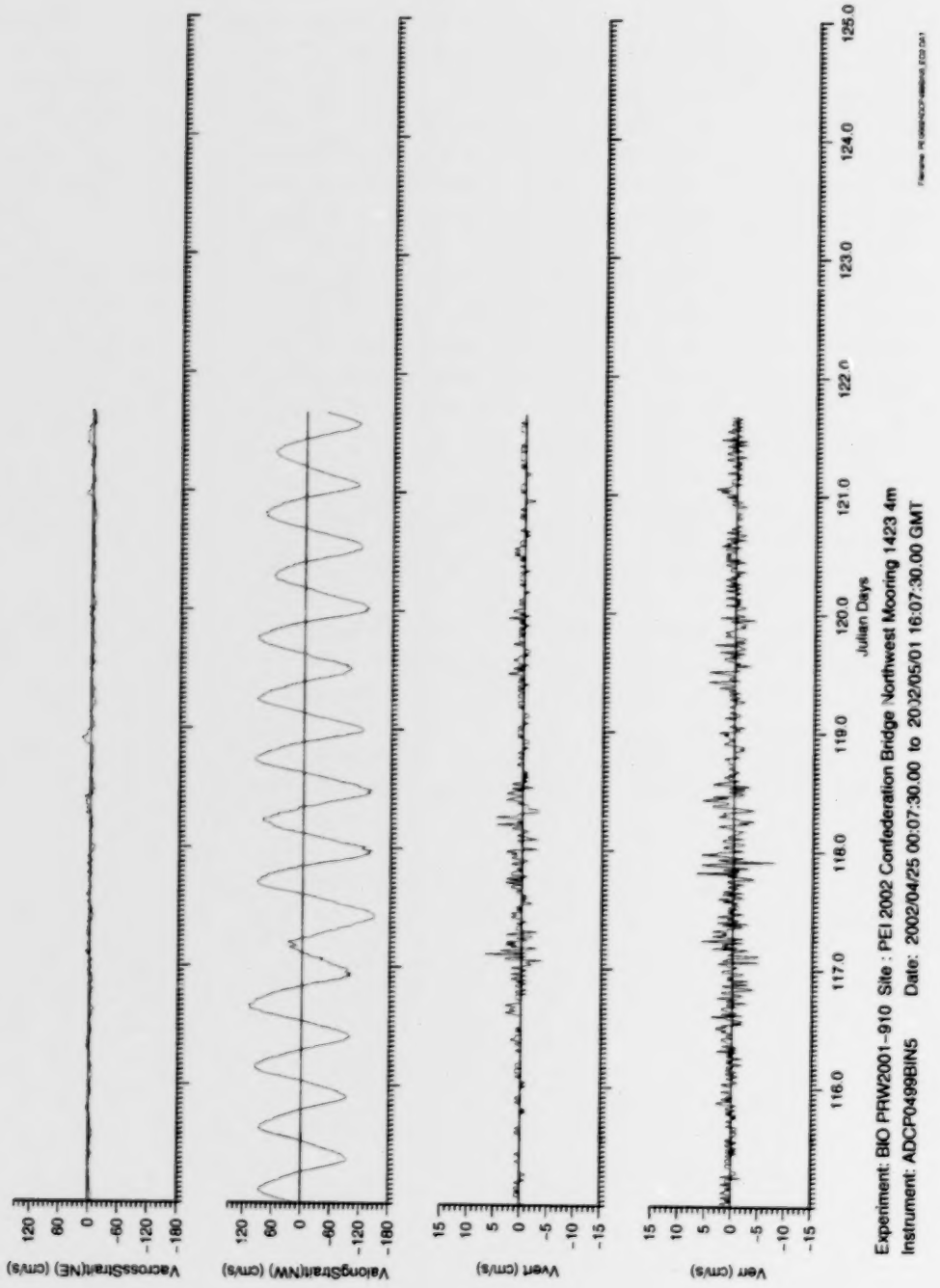

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Ver (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
66.0
67.0
68.0
69.0
70.0
71.0
72.0
73.0
74.0
75.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/03/06 00:07:30.00 to 2002/03/16 00:07:30.00 GMT


AcrossStrait(NE) (cm/s)
120
60
0
-60
-120
-180
AlongStrait(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Vert (cm/s)
15
10
5
0
-5
-10
-15
76.0
77.0
78.0
79.0
80.0
81.0
82.0
83.0
84.0
85.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/03/16 00:07:30.00 to 2002/03/26 00:07:30.00 GMT


AcrossStrm(NE) (cm/s)
AlongStrm(NW) (cm/s)
Vnet (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
86.0
87.0
88.0
89.0
90.0
91.0
92.0
93.0
94.0
95.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/03/26 00:07:30.00 to 2002/04/05 00:07:30.00 GMT


AcrossStrait(NE) (cm/s)
AlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
96.0
97.0
98.0
99.0
100.0
101.0
102.0
103.0
104.0
105.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/04/05 00:07:30.00 to 2002/04/15 00:07:30.00 GMT


VacrossStrai(NE) (cm/s)
120
60
0
-60
-120
-180
ValongStrai(NW) (cm/s)
120
60
0
-60
-120
-180
Vvert (cm/s)
15
10
5
0
-5
-10
-15
Verr (cm/s)
15
10
5
0
-5
-10
-15
106.0
107.0
108.0
109.0
110.0
111.0
112.0
113.0
114.0
115.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/04/15 00:07:30.00 to 2002/04/25 00:07:30.00 GMT


VacrossStrat(NE) (cm/s)
VlongStrat(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 4m
Instrument: ADCP0499BIN5 Date: 2002/04/25 00:07:30.00 to 2002/05/01 16:07:30.00 GMT

6.1.2 ADCP Ice Velocity

The Ice Velocity is measured using the bottom track mode of an upward looking ADCP. A correction of +28.5° was applied in BBLIST to correct for -21.5° of magnetic variation and +50° to align the components of flow with the axis of the channel (310°/130°). Time was adjusted by +7.5 min from the start time recorded on the log sheet to reflect the center of the sample interval. Further processing and analysis was carried out using software developed at ASL Environmental with site and instrument specific changes made during processing.

Since there is not a valid measurement of ice velocity during open water periods, an estimate of the expected ice velocity must be provided so the ice draft data can be converted to a draft verses distance data set. A regression is run between the remaining ice velocity data, the water velocity below the ice (Bin 5 at 4m), and wind speed and direction. The regression is then used to fill in the open water data points.

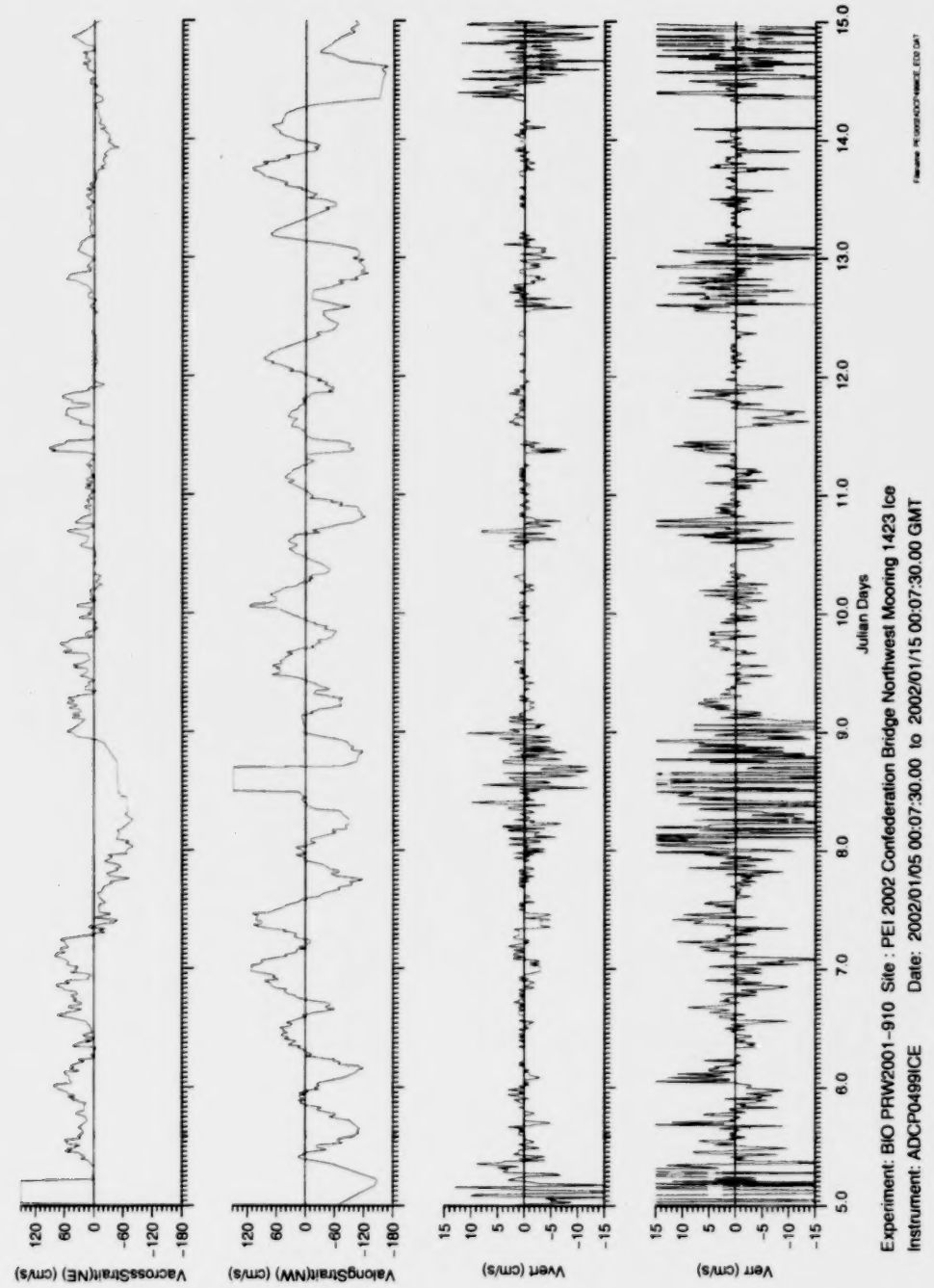
ADCP 499, mooring number 1423 , was deployed on the Northwest side of the Confederation Bridge on December 9th 2002 , at 46 ° 12.483'N, 63° 45.487'W at 16m, in a water depth of 20m, with a 15 minute average period.

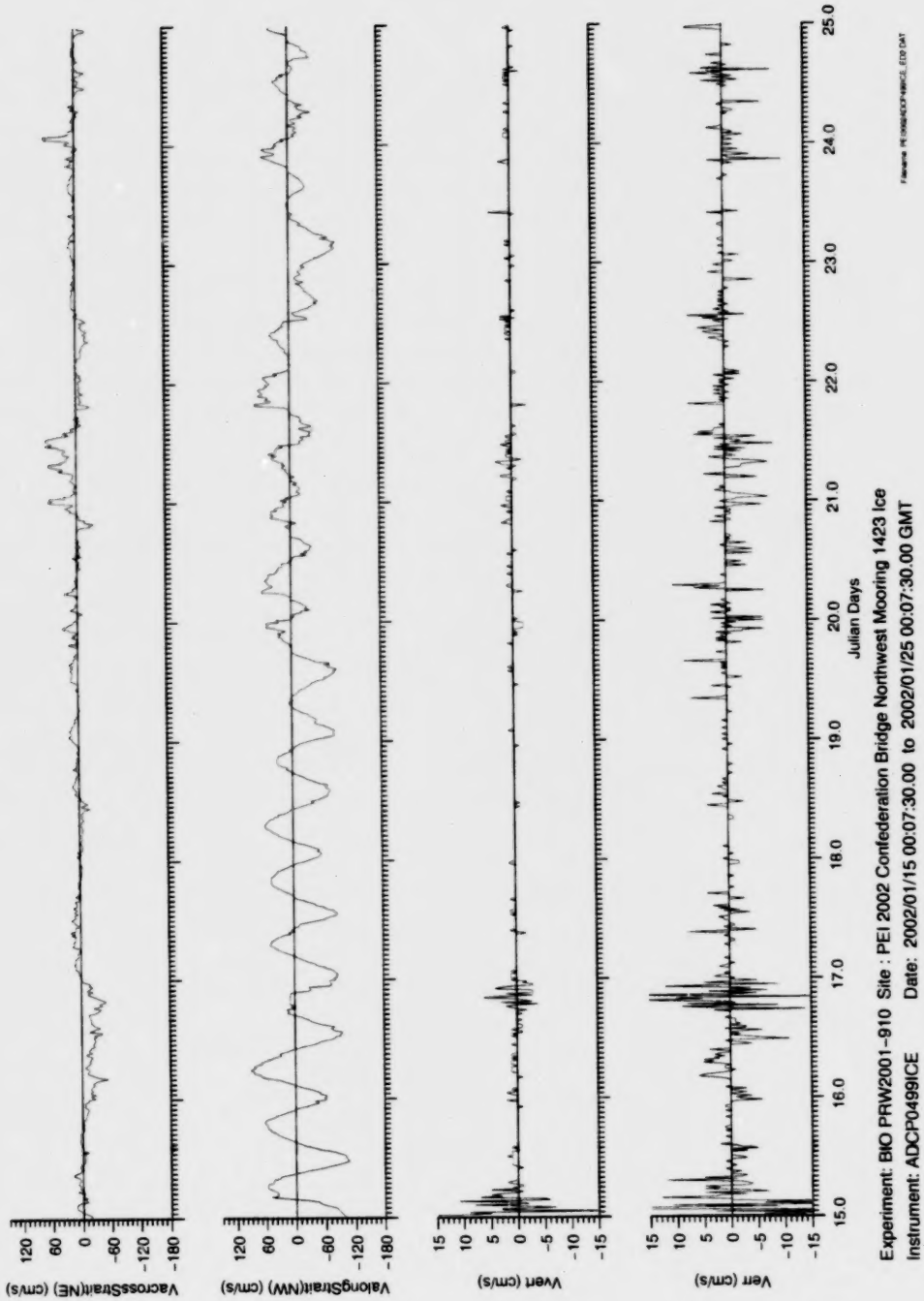
The following are the ice velocities as measured before the regression has been run. The ice velocity data have been edited to January 5th 2002 to March 15th, as there was little to no ice before or after this time period.

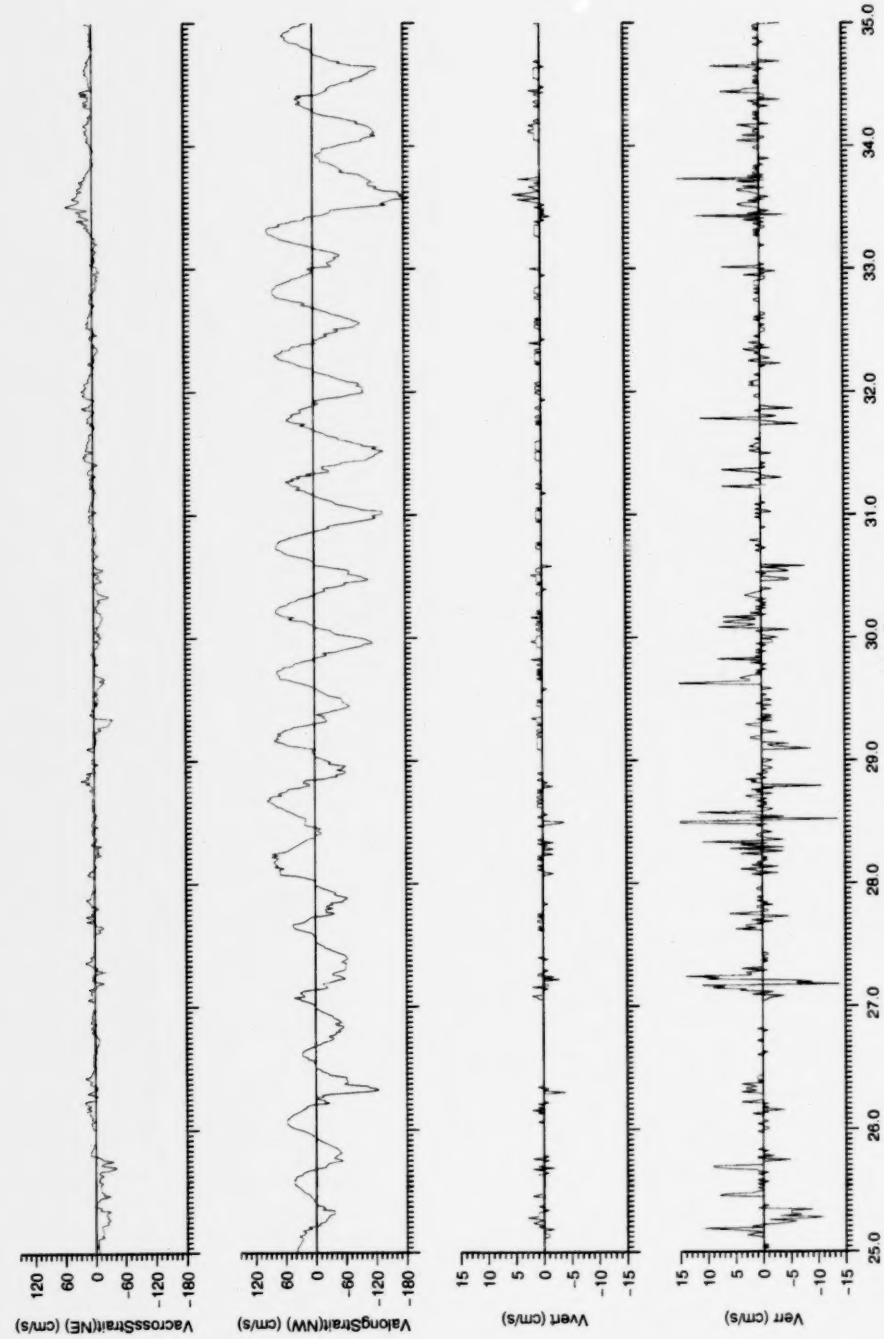
Note the increased scatter in the across strait and along strait components during periods of high error and vertical velocity. These are periods of open or partially open water.

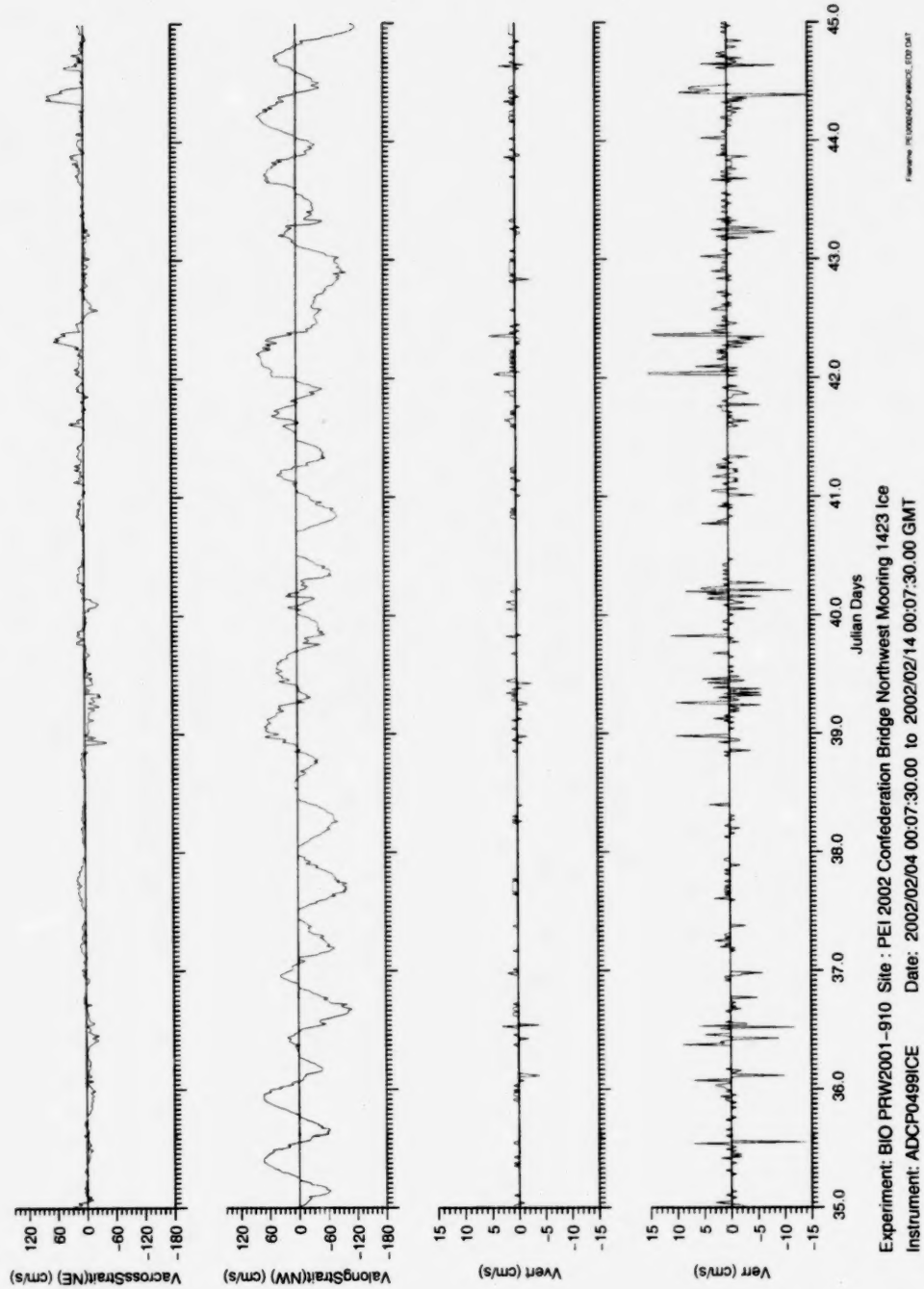
Periods of zero ice velocity occasionally occur when the ice is stopped against the bridge piers.

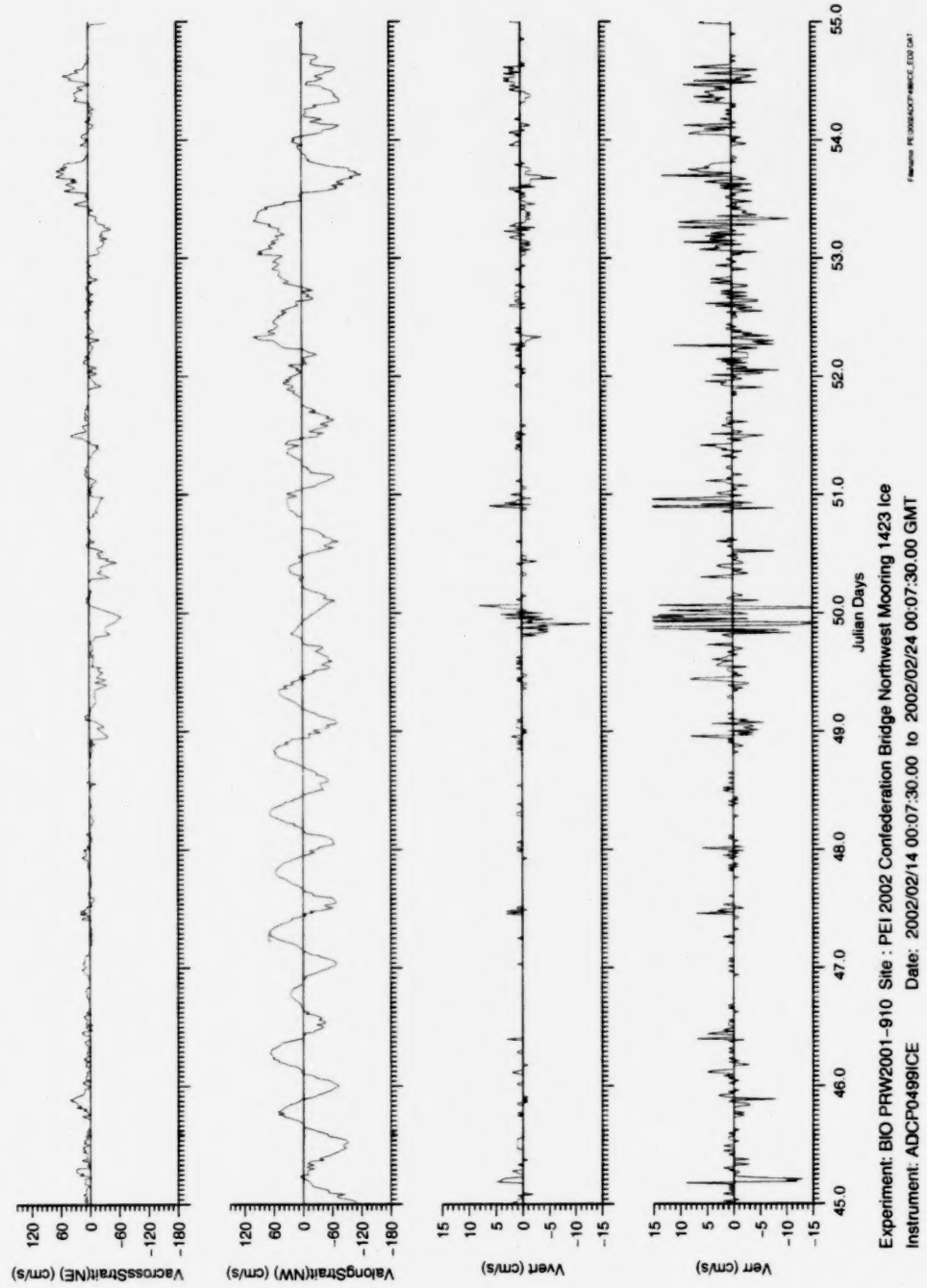
Velocity "no data" values of -9999 are plotted as 150.

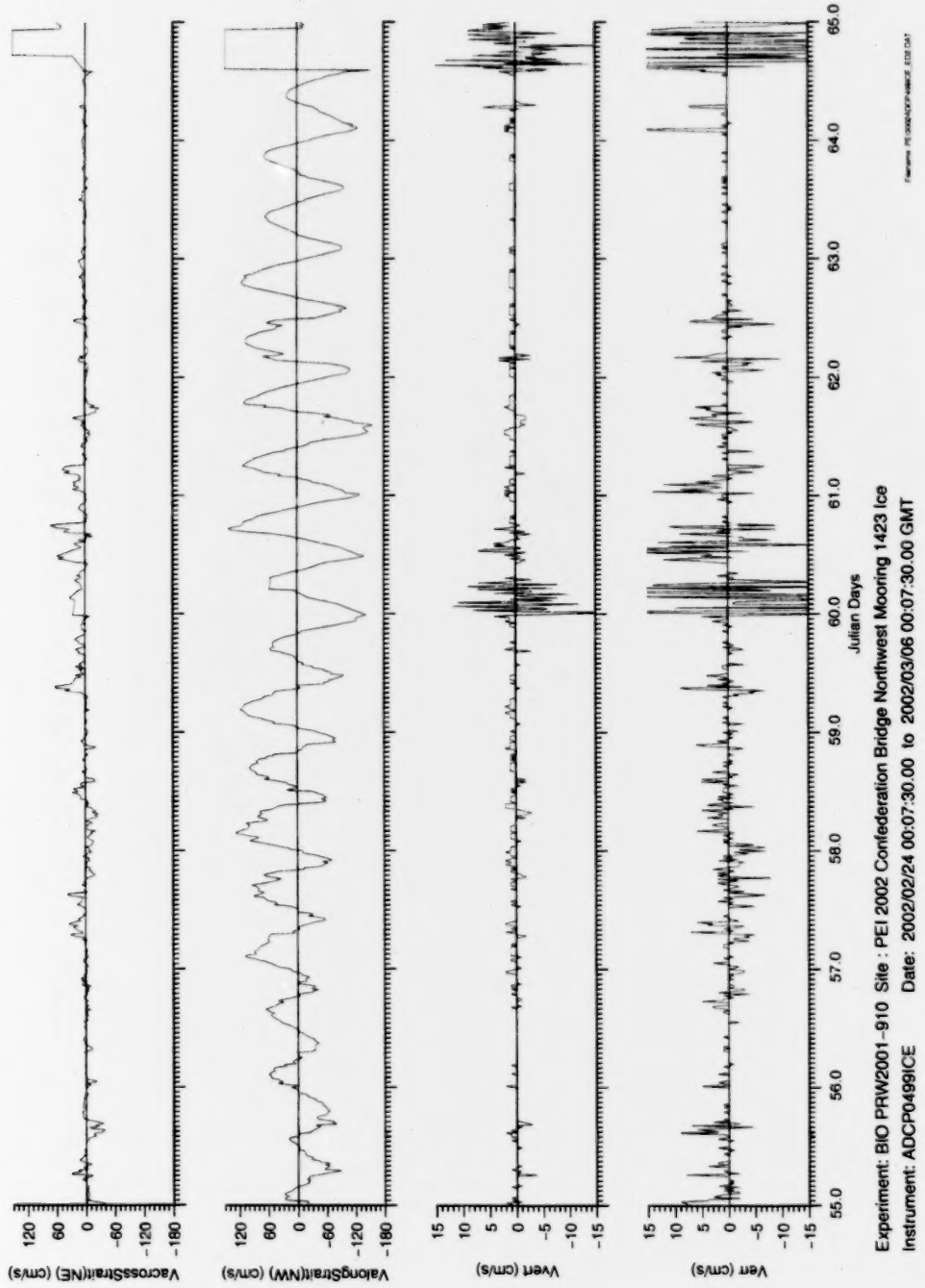

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vver (cm/s)
Ver (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/01/05 00:07:30.00 to 2002/01/15 00:07:30.00 GMT

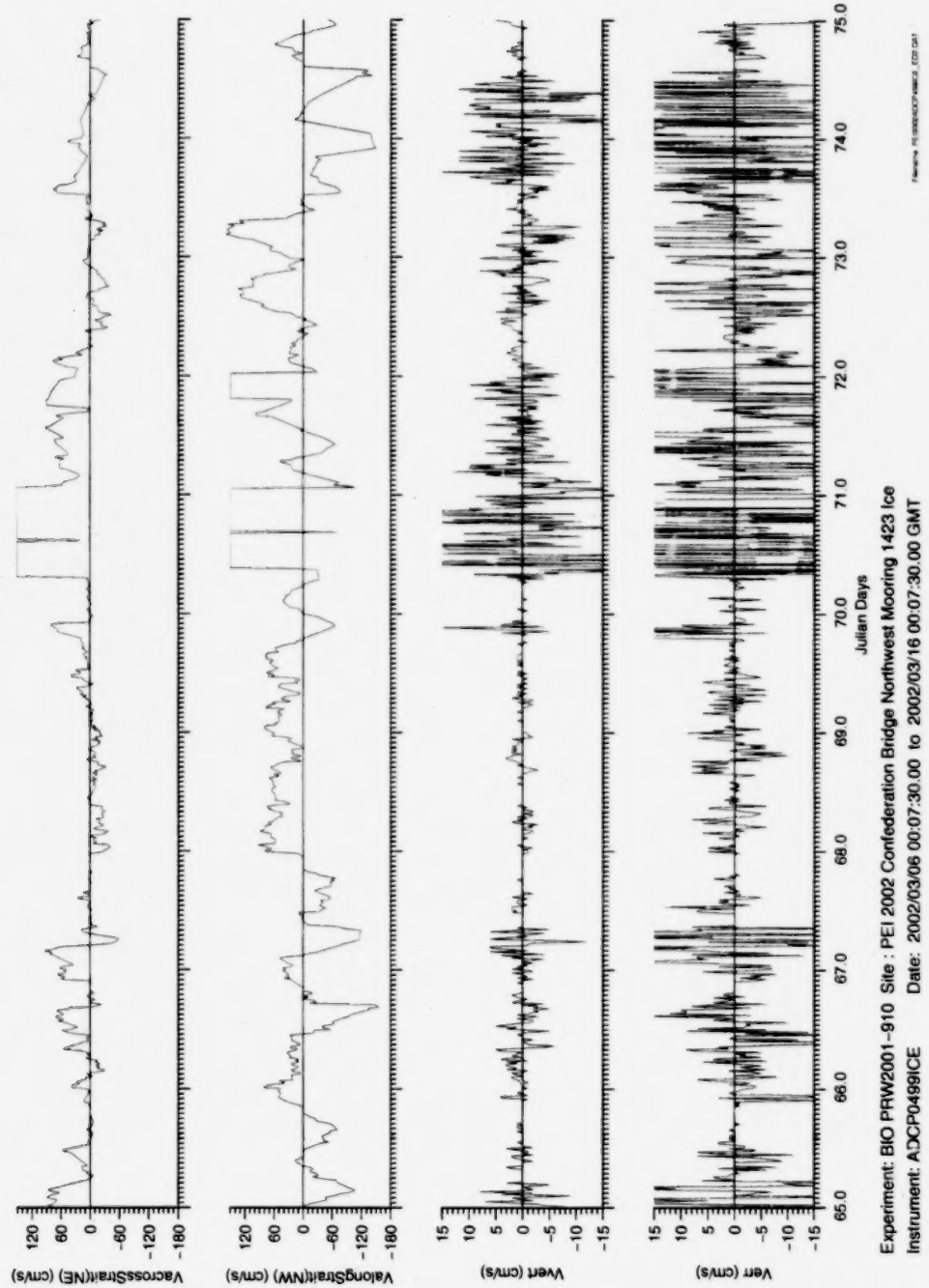

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
15.0
16.0
17.0
18.0
19.0
20.0
21.0
22.0
23.0
24.0
25.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/01/15 00:07:30.00 to 2002/01/25 00:07:30.00 GMT

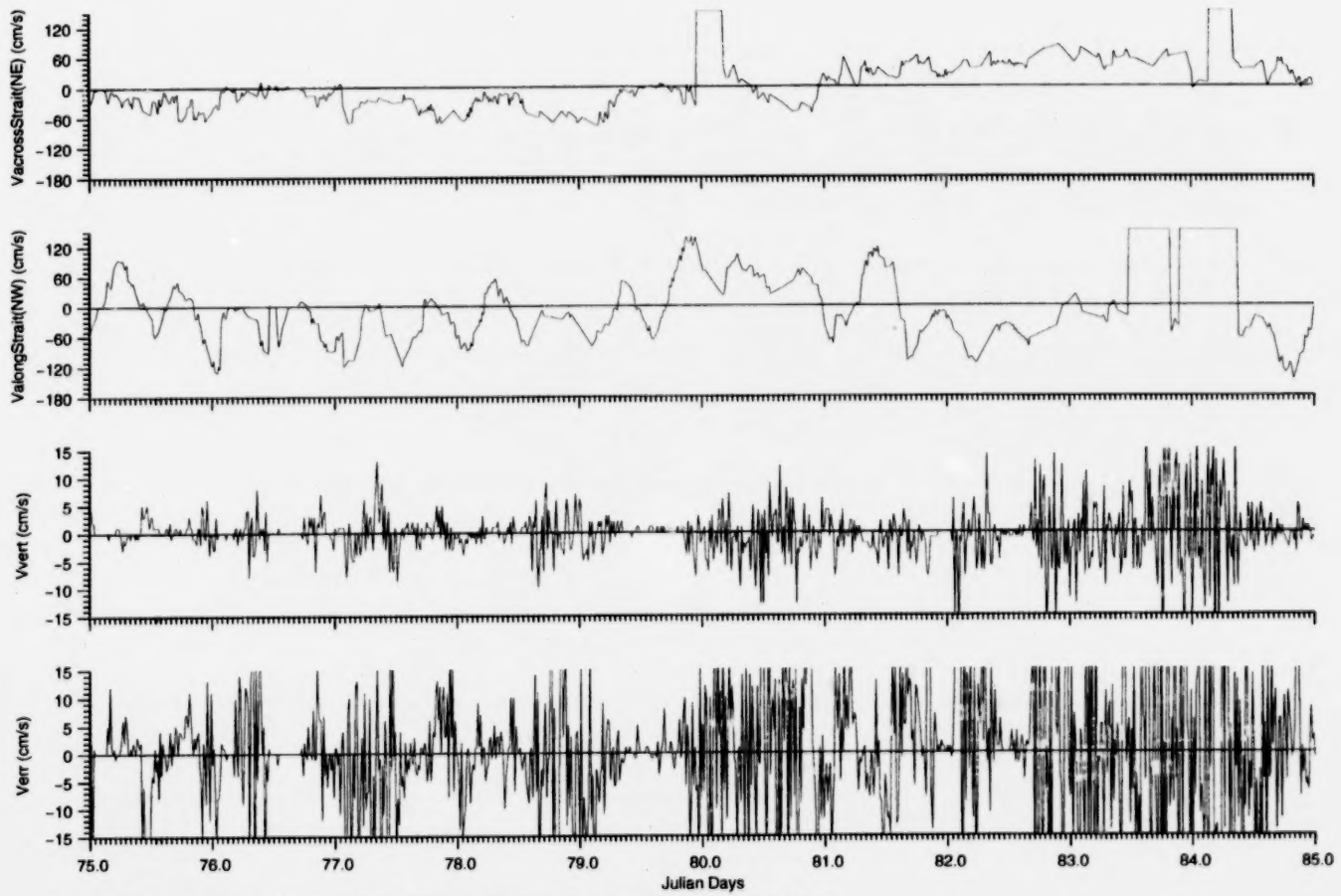

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/01/25 00:07:30.00 to 2002/02/04 00:07:30.00 GMT


Vacross Strait(NE) (cm/s)
Valong Strait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/02/04 00:07:30.00 to 2002/02/14 00:07:30.00 GMT


VacrossStrait(NE) (cm/s)
ValongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
45.0
46.0
47.0
48.0
49.0
50.0
51.0
52.0
53.0
54.0
55.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/02/14 00:07:30.00 to 2002/02/24 00:07:30.00 GMT

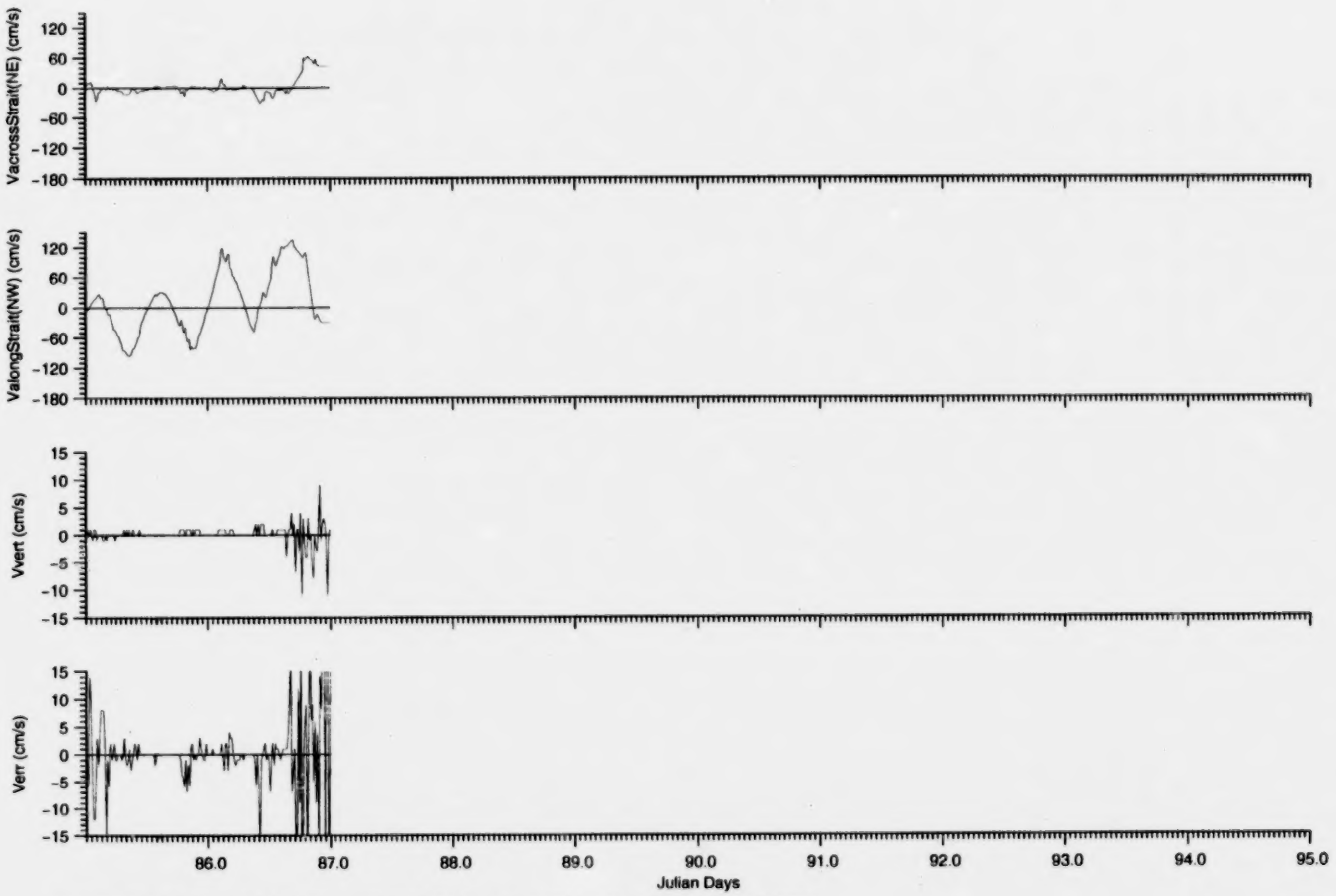

VacrossStrait(NE) (cm/s)
VlongStrait(NW) (cm/s)
Vvert (cm/s)
Vert (cm/s)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/02/24 00:07:30.00 to 2002/03/06 00:07:30.00 GMT


Vacrosss Strait(NE) (cm/s)
Valong Strait(NW) (cm/s)
Vver (cm/s)
Ver (cm/s)
120
60
0
-60
-120
-180
15
10
5
0
-5
-10
-15
65.0
66.0
67.0
68.0
69.0
70.0
71.0
72.0
73.0
74.0
75.0
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/03/06 00:07:30.00 to 2002/03/16 00:07:30.00 GMT



Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice

Instrument: ADCP0499ICE Date: 2002/03/16 00:07:30.00 to 2002/03/26 00:07:30.00 GMT

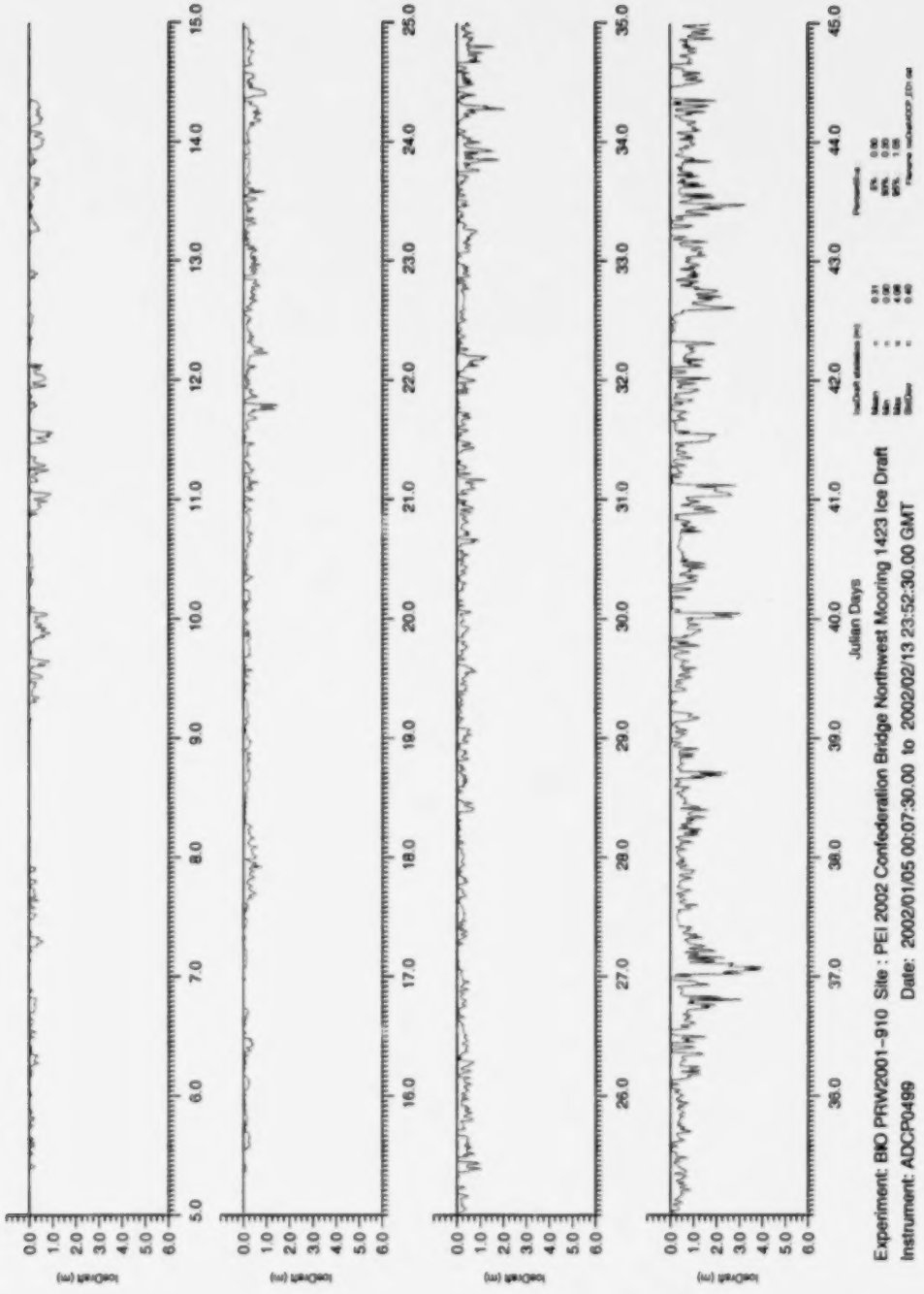


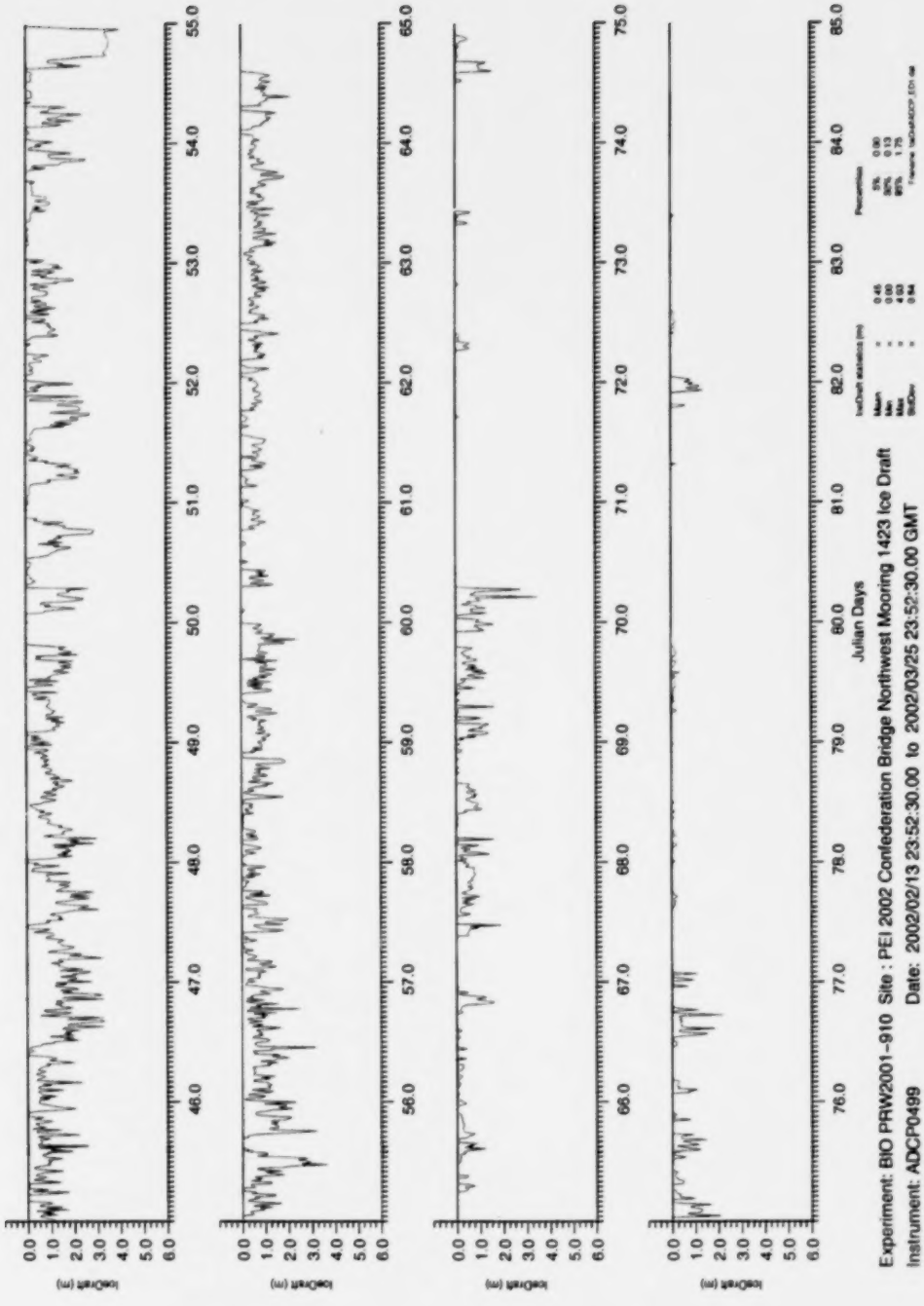
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice
Instrument: ADCP0499ICE Date: 2002/03/25 23:52:30.00 to 2002/03/27 23:52:30.00 GMT

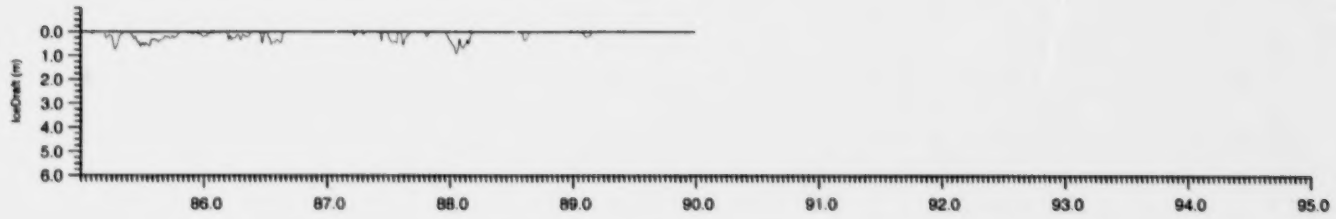
6.1.3 Ice Draft

Due to the failure of the IPS ice draft estimates were calculated using the bottom track ranges measured by the ADCP. Open water sections were detected, and set to zero, using the error velocities of the bottom (ice) track. If the absolute value of the error velocity was greater than 5 cm/sec the range and velocity were rejected. Once we had a reasonable estimate of ranges and velocities, the processing continued as in previous years. However, the range data is highly smoothed compared to previous years, as we are using ADCP 15 minute average range rather than 1 second instantaneous ranges from the IPS.

The following plots represent ice draft as calculated from the ADCP bottom track measurements.


Ice Draft (m)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice Draft
Instrument: ADCP0499 Date: 2002/01/05 00:07:30.00 to 2002/02/13 23:52:30.00 GMT


Ice Draft (m)
Julian Days
Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice Draft
Instrument: ADCP0499 Date: 2002/02/13 23:52:30.00 to 2002/03/25 23:52:30.00 GMT



Experiment: BIO PRW2001-910 Site : PEI 2002 Confederation Bridge Northwest Mooring 1423 Ice Draft
Instrument: ADCP0499 Date: 2002/03/25 23:52:30.00 to 2002/03/30 23:52:30.00 GMT

IceDraft statistics (m)		
Mean	=	0.09
Min	=	0.00
Max	=	0.93
StdDev	=	0.17

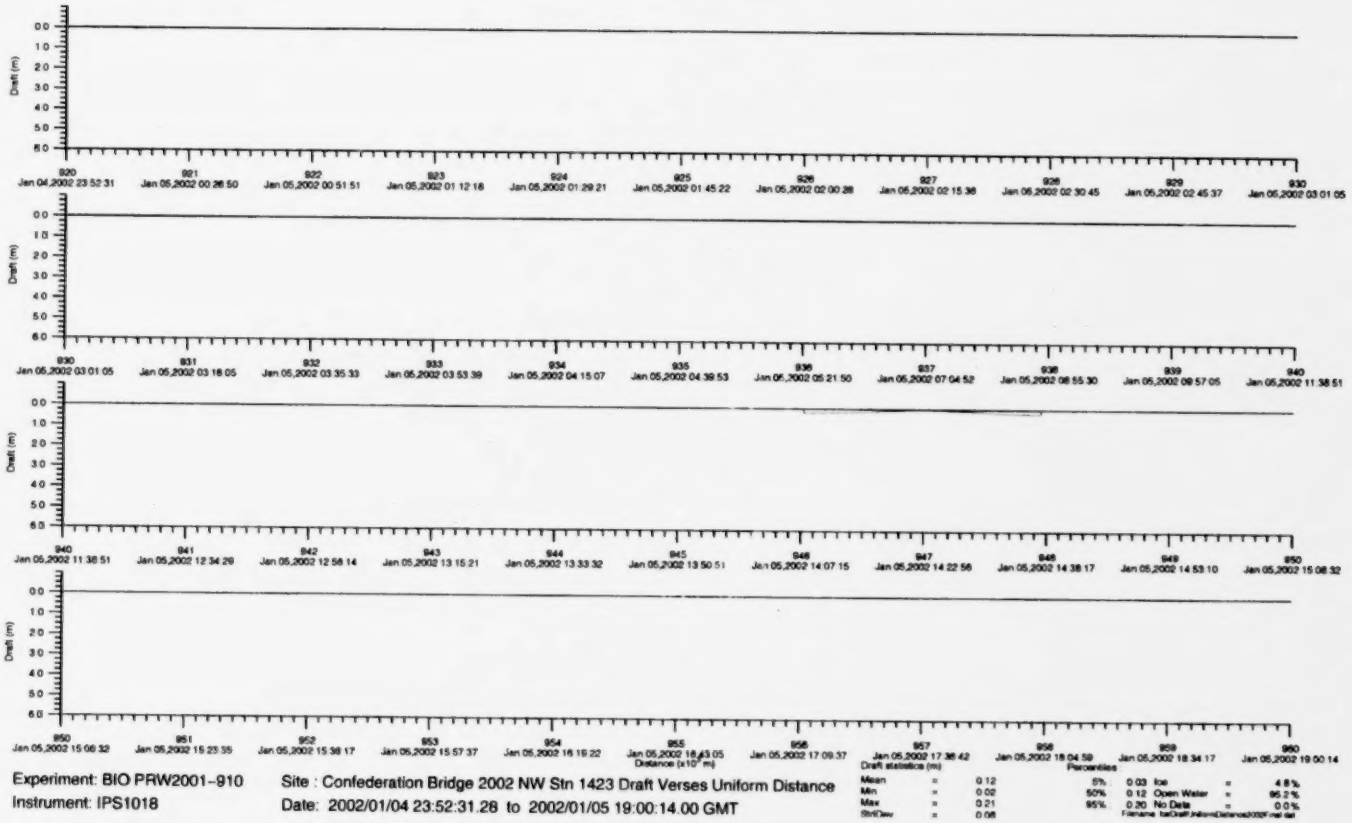
Percentiles	
5%	0.00
50%	0.00
95%	0.48

Filename: IceDraftADCP_ED1.dat

6.1.4 Ice Draft Verses Uniform Distance

Producing spatial data from the time series of IPS ranges involved a large effort. The range data were corrected for variations in sound velocity as determined by CTD (Conductivity, Temperature, and Depth) measured by the MicroCAT CTD. The corrected ADCP Bottom Track ranges were combined with pressure data and the atmospheric data to produce ice draft time series. The draft data were edited to ensure periods of open water were set to zero ice draft.

The ADCP ice velocity measurement showed large vertical and error velocities during periods when there were significant amounts of open water. As the ice velocity estimates are not usable during periods of open water, a continuous "surface" velocity estimate is created by merging the "good" velocity estimates with data created using a linear regression of the wind and ADCP 4 metre depth bin of velocity data. The ice draft data were combined with this surface velocity estimate to calculate ice displacement over a uniform distance.



Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/04 23:52:31.28 to 2002/01/05 19:00:14.00 GMT

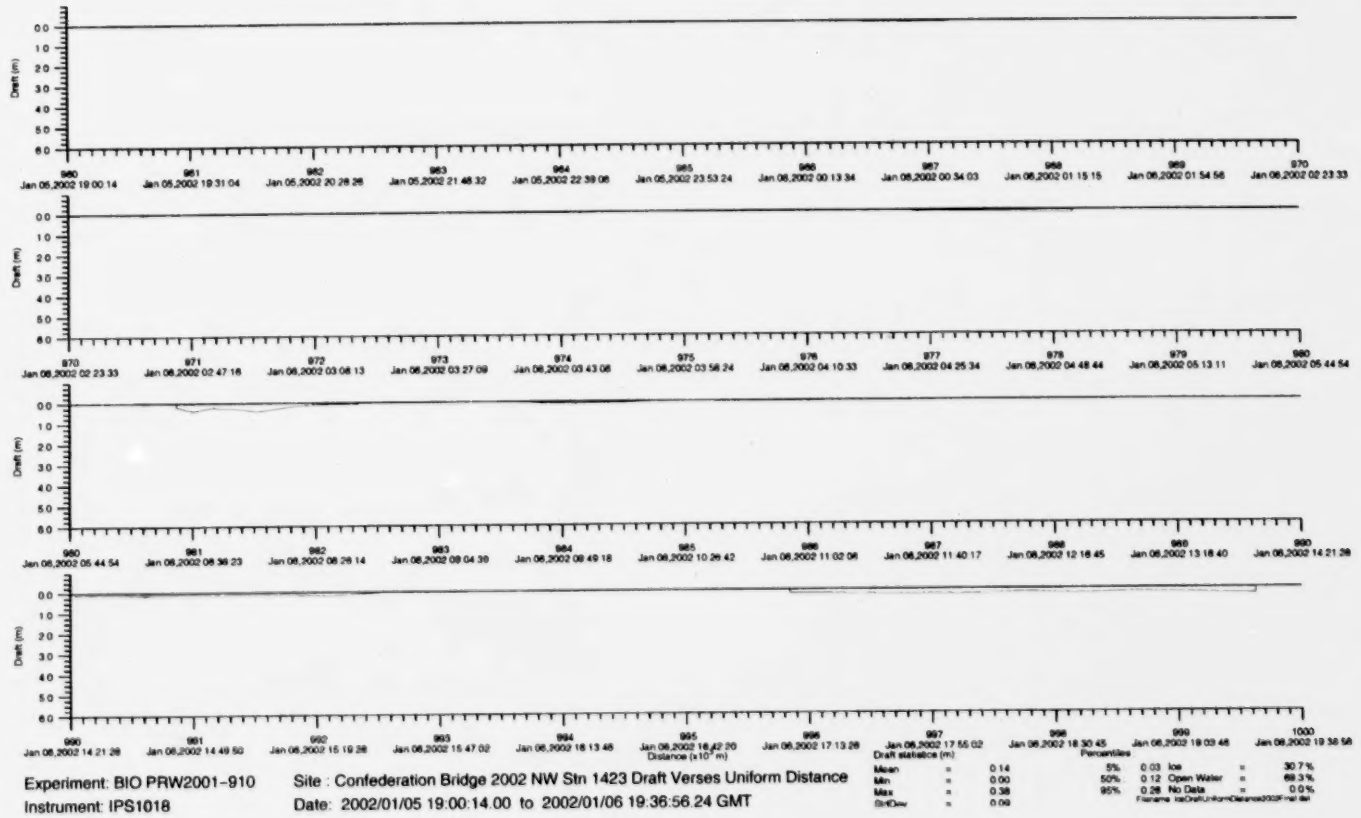
Draft statistics (m)

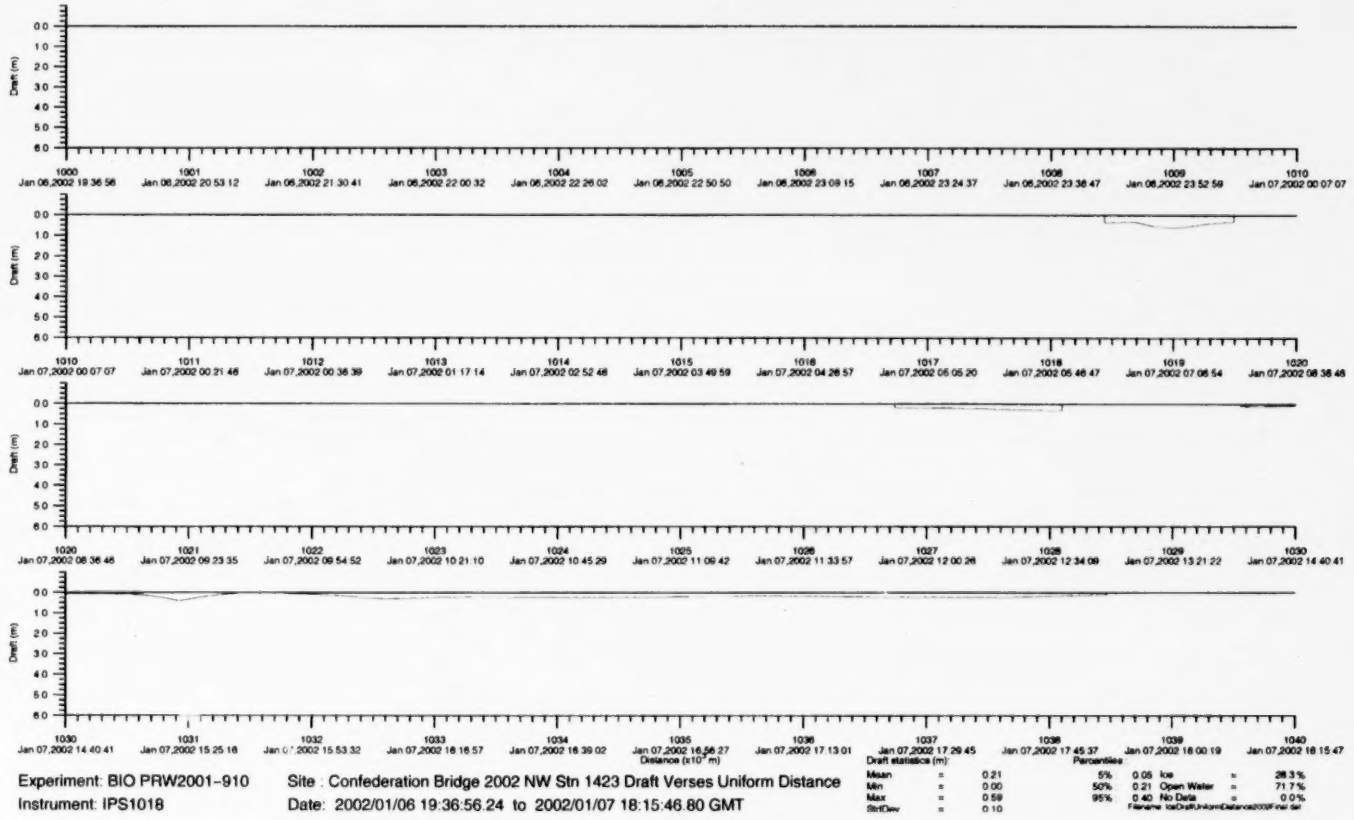
Mean	=	0.12
Min	=	0.02
Max	=	0.21
StdDev	=	0.08

Percentiles

5%	0.03	Ice	=	4.8%
50%	0.12	Open Water	=	95.2%
95%	0.20	No Data	=	0.0%

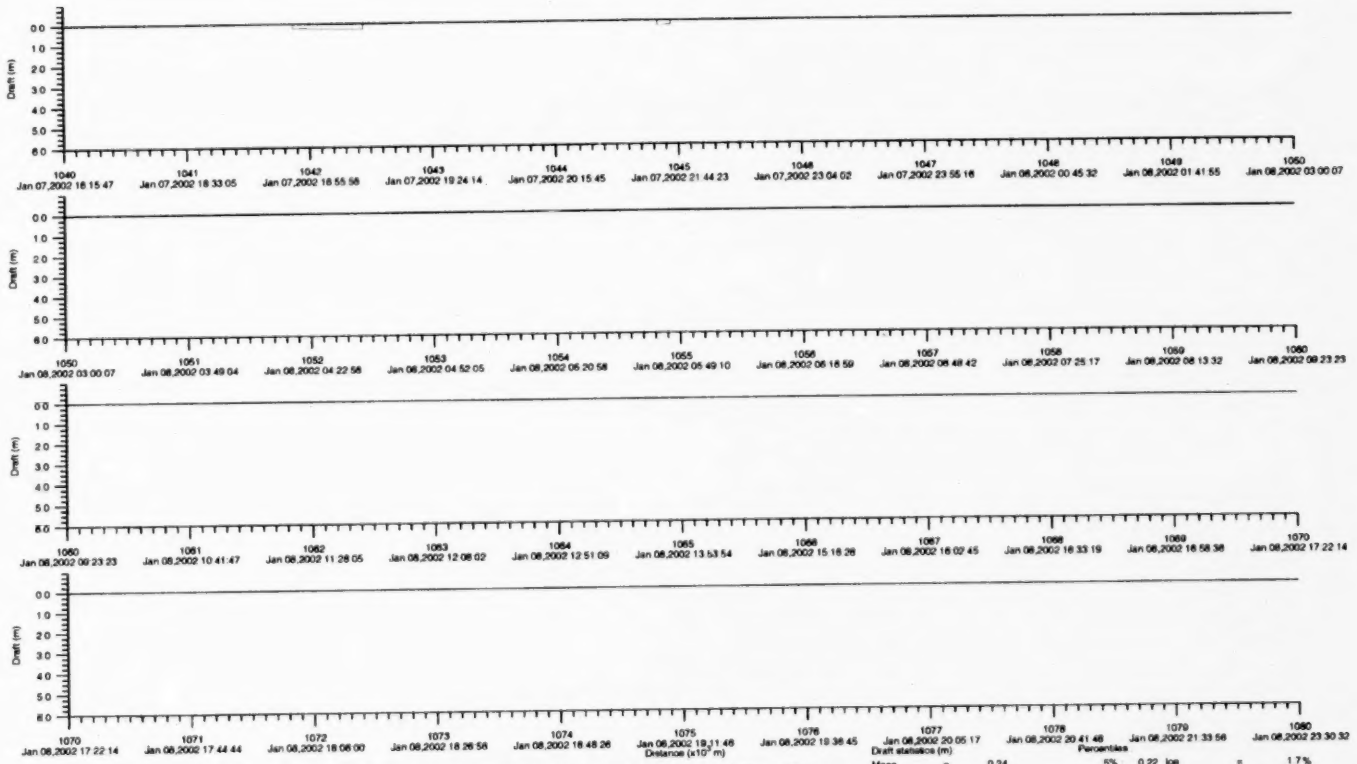
Filename: \\a\Draft\Ireland\Distance\2002\Final.dat


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
960 Jan 05,2002 19:00:14
961 Jan 05,2002 19:31:04
962 Jan 05,2002 20:26:26
963 Jan 05,2002 21:46:32
964 Jan 05,2002 22:39:06
965 Jan 05,2002 23:53:24
966 Jan 06,2002 00:13:34
967 Jan 06,2002 00:34:03
968 Jan 06,2002 01:15:15
969 Jan 06,2002 01:54:56
970 Jan 06,2002 02:23:33
970 Jan 06,2002 02:23:33
971 Jan 06,2002 02:47:16
972 Jan 06,2002 03:08:13
973 Jan 06,2002 03:27:09
974 Jan 06,2002 03:43:06
975 Jan 06,2002 03:58:24
976 Jan 06,2002 04:10:33
977 Jan 06,2002 04:25:34
978 Jan 06,2002 04:48:44
979 Jan 06,2002 05:13:11
980 Jan 06,2002 05:44:54
980 Jan 06,2002 05:44:54
981 Jan 06,2002 06:36:23
982 Jan 06,2002 08:29:14
983 Jan 06,2002 08:04:39
984 Jan 06,2002 08:49:18
985 Jan 06,2002 10:26:42
986 Jan 06,2002 11:02:06
987 Jan 06,2002 11:40:17
988 Jan 06,2002 12:16:45
989 Jan 06,2002 13:18:40
990 Jan 06,2002 14:21:28
990 Jan 06,2002 14:21:28
991 Jan 06,2002 14:49:50
992 Jan 06,2002 15:19:28
993 Jan 06,2002 15:47:02
994 Jan 06,2002 16:13:46
995 Jan 06,2002 16:42:20
Distance (x10³ m)
996 Jan 06,2002 17:13:28
997 Jan 06,2002 17:55:02
998 Jan 06,2002 18:30:45
999 Jan 06,2002 19:03:46
1000 Jan 06,2002 19:36:56
Draft statistics (m)
Mean = 0.14
Min = 0.00
Max = 0.38
StdDev = 0.09
Percentiles
5% 0.03 Ice = 30.7%
50% 0.12 Open Water = 69.3%
95% 0.28 No Data = 0.0%
Filename IceDraftUniformDistance2002Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/05 19:00:14.00 to 2002/01/06 19:36:56.24 GMT



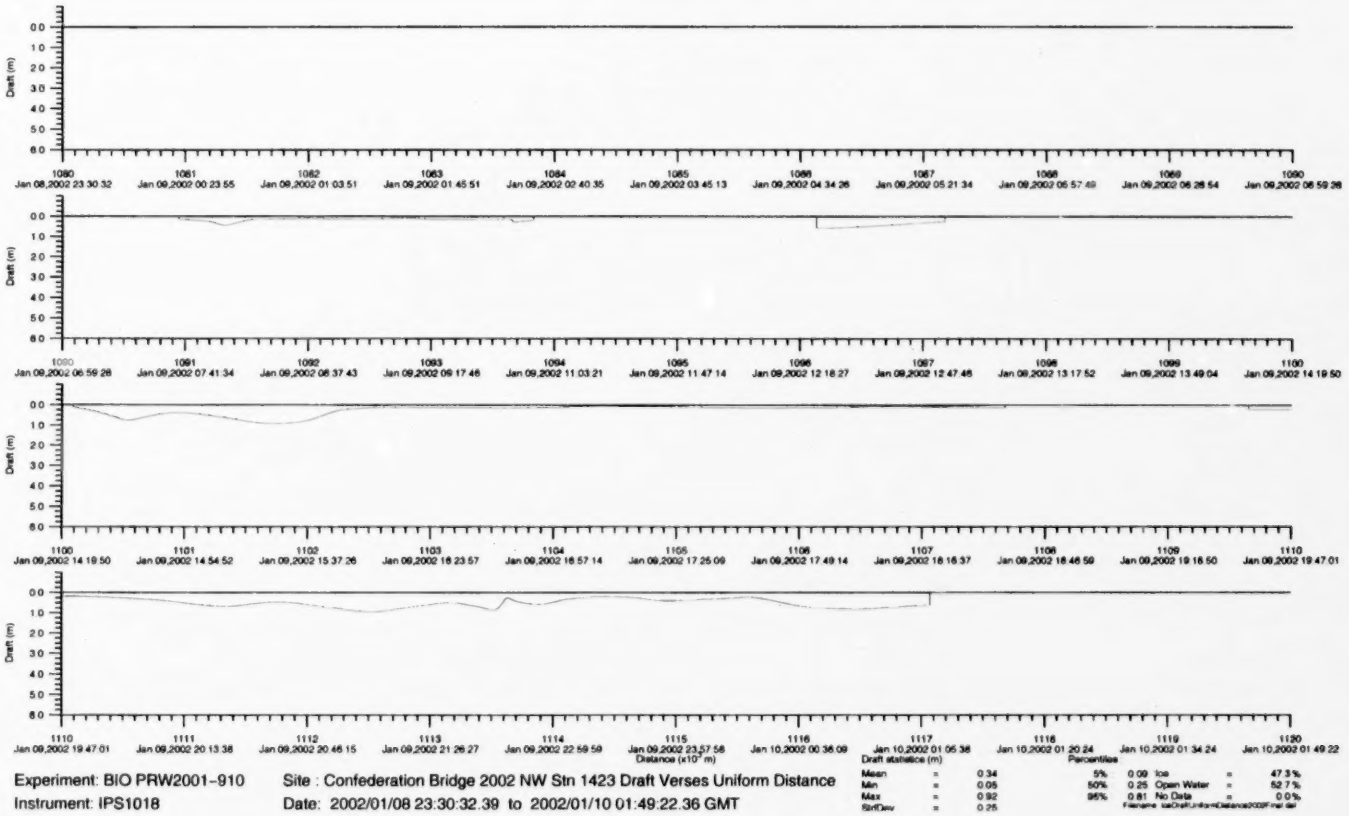
Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/06 19:36:56.24 to 2002/01/07 18:15:46.80 GMT

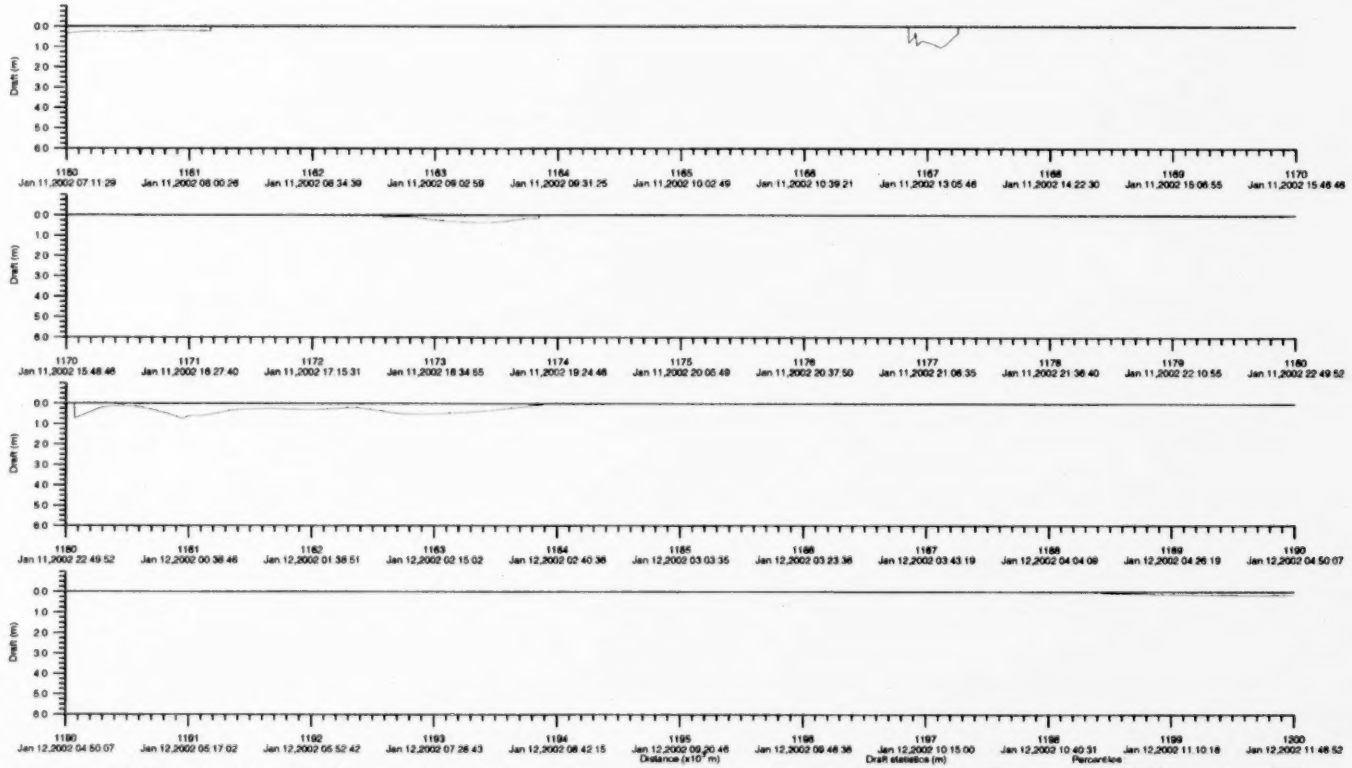


Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/07 18:15:46.80 to 2002/01/08 23:30:32.39 GMT

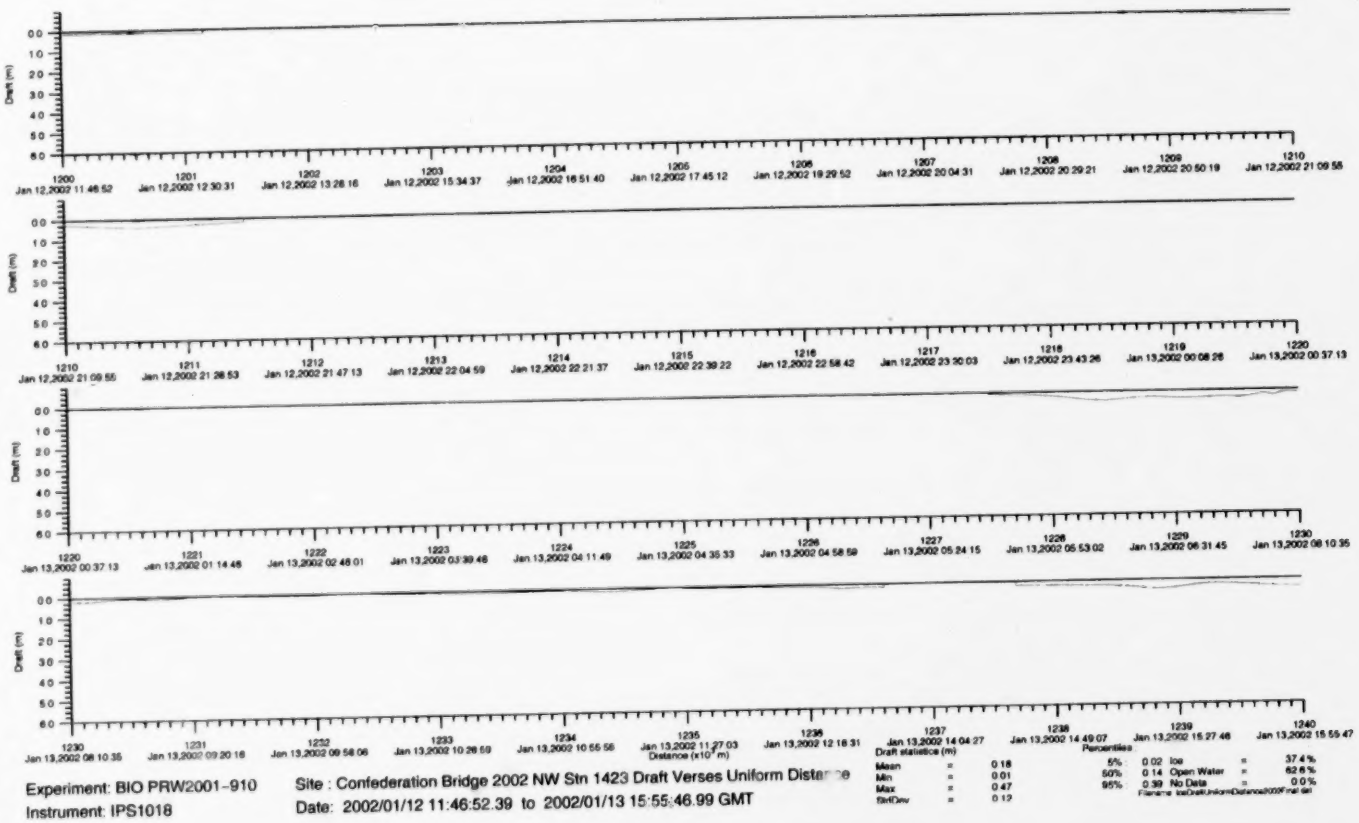

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1080 Jan 08,2002 23:30:32
1081 Jan 09,2002 00:23:55
1082 Jan 09,2002 01:03:51
1083 Jan 09,2002 01:45:51
1084 Jan 09,2002 02:40:35
1085 Jan 09,2002 03:45:13
1086 Jan 09,2002 04:34:26
1087 Jan 09,2002 05:21:34
1088 Jan 09,2002 05:57:49
1089 Jan 09,2002 06:28:54
1090 Jan 09,2002 06:59:26
1090 Jan 09,2002 06:59:26
1091 Jan 09,2002 07:41:34
1092 Jan 09,2002 08:37:43
1093 Jan 09,2002 09:17:46
1094 Jan 09,2002 11:03:21
1095 Jan 09,2002 11:47:14
1096 Jan 09,2002 12:18:27
1097 Jan 09,2002 12:47:46
1098 Jan 09,2002 13:17:52
1099 Jan 09,2002 13:49:04
1100 Jan 09,2002 14:19:50
1100 Jan 09,2002 14:19:50
1101 Jan 09,2002 14:54:52
1102 Jan 09,2002 15:37:26
1103 Jan 09,2002 16:23:57
1104 Jan 09,2002 16:57:14
1105 Jan 09,2002 17:25:09
1106 Jan 09,2002 17:49:14
1107 Jan 09,2002 18:16:37
1108 Jan 09,2002 18:46:59
1109 Jan 09,2002 19:16:50
1110 Jan 09,2002 19:47:01
1110 Jan 09,2002 19:47:01
1111 Jan 09,2002 20:13:38
1112 Jan 09,2002 20:46:15
1113 Jan 09,2002 21:26:27
1114 Jan 09,2002 22:59:59
1115 Jan 09,2002 23:57:58
Distance (x10³ m)
1116 Jan 10,2002 00:36:09
1117 Jan 10,2002 01:05:36
1118 Jan 10,2002 01:20:24
1119 Jan 10,2002 01:34:24
1120 Jan 10,2002 01:49:22
Draft statistics (m)
Mean = 0.34
Min = 0.05
Max = 0.92
StdDev = 0.25
Percentiles
5% 0.09 Ice = 47.3%
50% 0.25 Open Water = 52.7%
95% 0.81 No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/08 23:30:32.39 to 2002/01/10 01:49:22.36 GMT

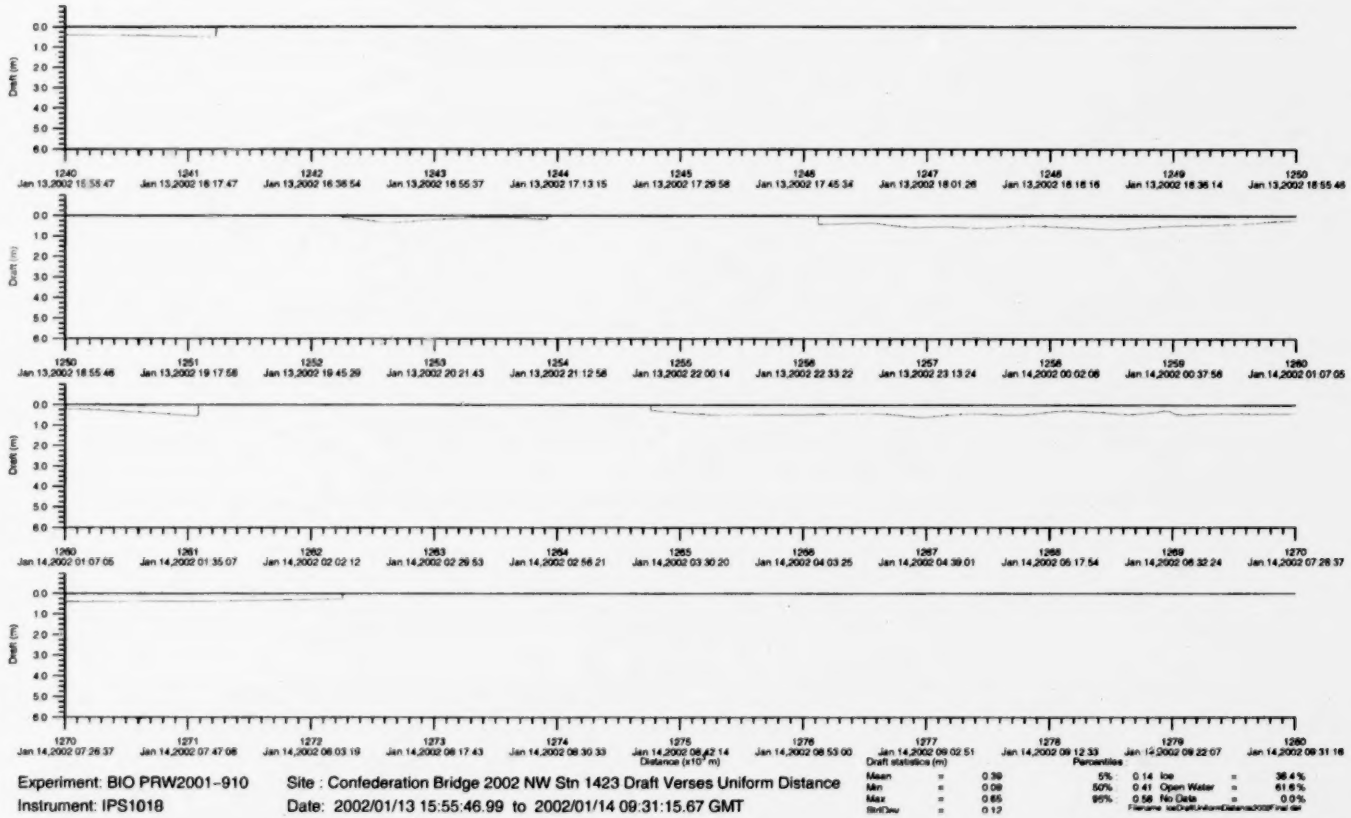
Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1120 Jan 10,2002 01:49:22
1121 Jan 10,2002 02:10:03
1122 Jan 10,2002 02:34:19
1123 Jan 10,2002 03:01:59
1124 Jan 10,2002 03:34:51
1125 Jan 10,2002 04:18:23
1126 Jan 10,2002 05:10:45
1127 Jan 10,2002 07:59:08
1128 Jan 10,2002 08:36:31
1129 Jan 10,2002 09:11:19
1130 Jan 10,2002 09:53:26
1130 Jan 10,2002 09:53:26
1131 Jan 10,2002 11:54:36
1132 Jan 10,2002 12:56:13
1133 Jan 10,2002 13:43:33
1134 Jan 10,2002 14:29:10
1135 Jan 10,2002 15:24:37
1136 Jan 10,2002 16:51:07
1137 Jan 10,2002 17:40:49
1138 Jan 10,2002 18:19:10
1139 Jan 10,2002 18:48:12
1140 Jan 10,2002 19:09:01
1140 Jan 10,2002 19:09:01
1141 Jan 10,2002 19:29:21
1142 Jan 10,2002 19:46:06
1143 Jan 10,2002 20:00:44
1144 Jan 10,2002 20:15:11
1145 Jan 10,2002 20:29:48
1146 Jan 10,2002 20:44:56
1147 Jan 10,2002 21:00:29
1148 Jan 10,2002 21:15:48
1149 Jan 10,2002 21:31:12
1150 Jan 10,2002 21:52:05
1150 Jan 10,2002 21:52:05
1151 Jan 10,2002 22:14:45
1152 Jan 10,2002 22:42:45
1153 Jan 10,2002 23:47:07
1154 Jan 11,2002 01:38:29
1155 Jan 11,2002 02:21:46
Distance (x10^1 m)
1156 Jan 11,2002 02:53:11
1157 Jan 11,2002 03:30:13
1158 Jan 11,2002 04:16:32
1159 Jan 11,2002 05:18:14
1160 Jan 11,2002 07:11:29
Draft statistics (m)
Mean = 0.27
Min = 0.03
Max = 0.94
RMDev = 0.21
Percentiles
5% 0.05
50% 0.17
95% 0.69
Ice = 26.3%
Open Water = 73.7%
No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/10 01:49:22.36 to 2002/01/11 07:11:29.45 GMT

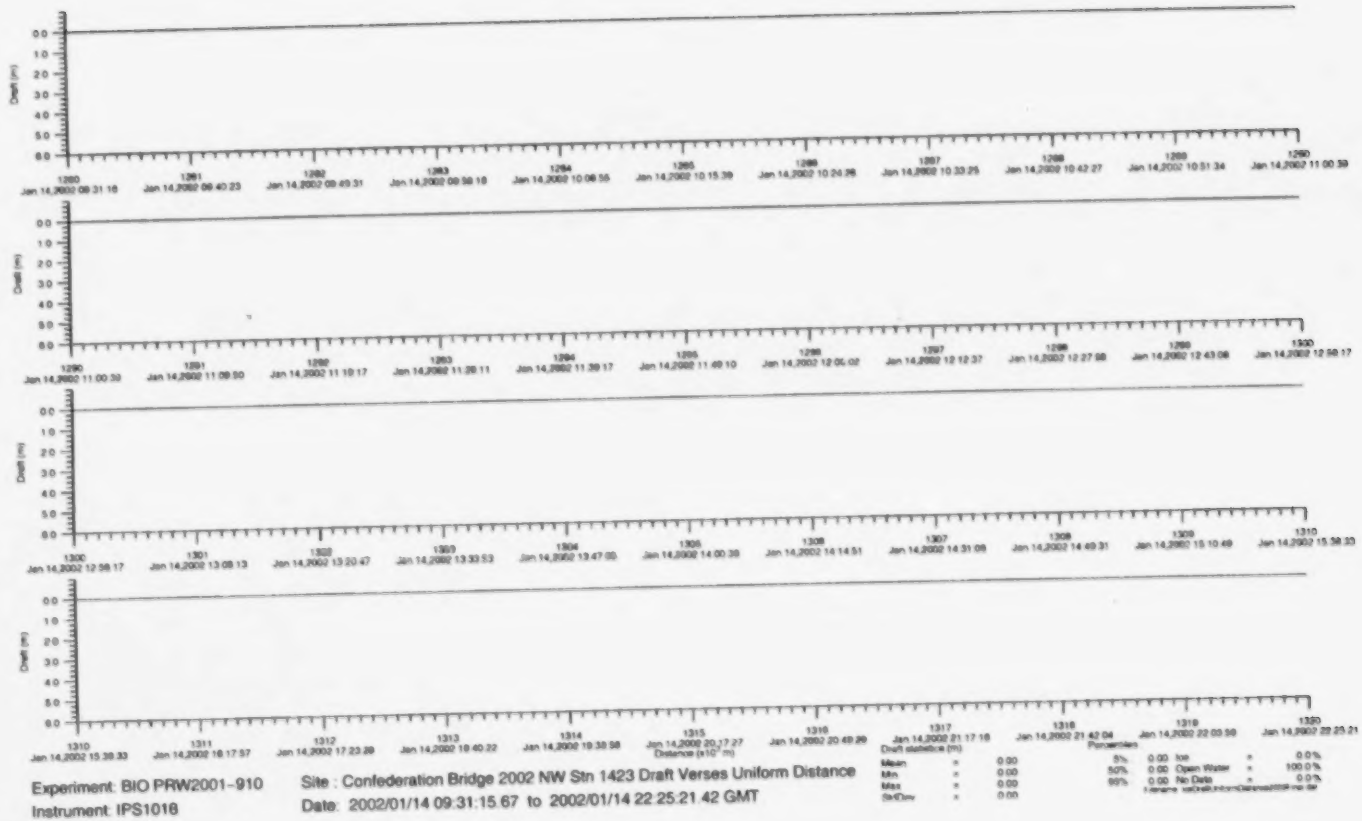


Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/11 07:11:29.45 to 2002/01/12 11:46:52.39 GMT

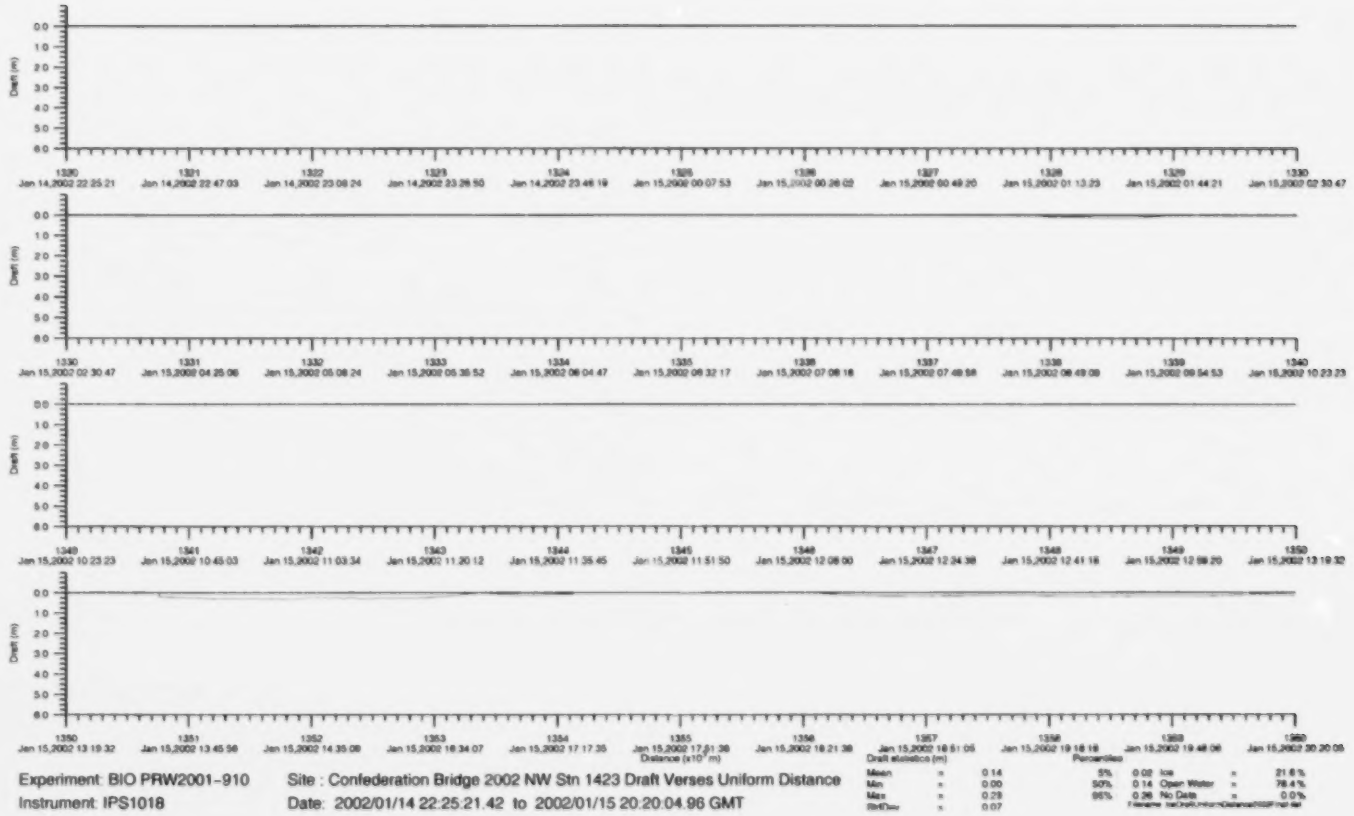

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1200 Jan 12,2002 11:46:52
1201 Jan 12,2002 12:30:31
1202 Jan 12,2002 13:28:16
1203 Jan 12,2002 15:34:37
1204 Jan 12,2002 16:51:40
1205 Jan 12,2002 17:45:12
1206 Jan 12,2002 19:29:52
1207 Jan 12,2002 20:04:31
1208 Jan 12,2002 20:29:21
1209 Jan 12,2002 20:50:19
1210 Jan 12,2002 21:09:55
1210 Jan 12,2002 21:09:55
1211 Jan 12,2002 21:28:53
1212 Jan 12,2002 21:47:13
1213 Jan 12,2002 22:04:59
1214 Jan 12,2002 22:21:37
1215 Jan 12,2002 22:39:22
1216 Jan 12,2002 22:58:42
1217 Jan 12,2002 23:30:03
1218 Jan 12,2002 23:43:26
1219 Jan 13,2002 00:08:26
1220 Jan 13,2002 00:37:13
1220 Jan 13,2002 00:37:13
1221 Jan 13,2002 01:14:46
1222 Jan 13,2002 02:46:01
1223 Jan 13,2002 03:39:46
1224 Jan 13,2002 04:11:49
1225 Jan 13,2002 04:35:33
1226 Jan 13,2002 04:58:59
1227 Jan 13,2002 05:24:15
1228 Jan 13,2002 05:53:02
1229 Jan 13,2002 06:31:45
1230 Jan 13,2002 08:10:35
1230 Jan 13,2002 08:10:35
1231 Jan 13,2002 09:20:18
1232 Jan 13,2002 09:58:06
1233 Jan 13,2002 10:26:59
1234 Jan 13,2002 10:55:58
1235 Jan 13,2002 11:27:03
Distance (x10^7 m)
1236 Jan 13,2002 12:18:31
1237 Jan 13,2002 14:04:27
1238 Jan 13,2002 14:49:07
1239 Jan 13,2002 15:27:46
1240 Jan 13,2002 15:55:47
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/12 11:46:52.39 to 2002/01/13 15:55:46.99 GMT
Draft statistics (m)
Mean = 0.18
Min = 0.01
Max = 0.47
StdDev = 0.13
Percentiles
5% 0.02
50% 0.14
95% 0.39
Ice = 37.4%
Open Water = 62.6%
No Data = 0.0%
Filename IceDraftUniformDistance2002Final.dat

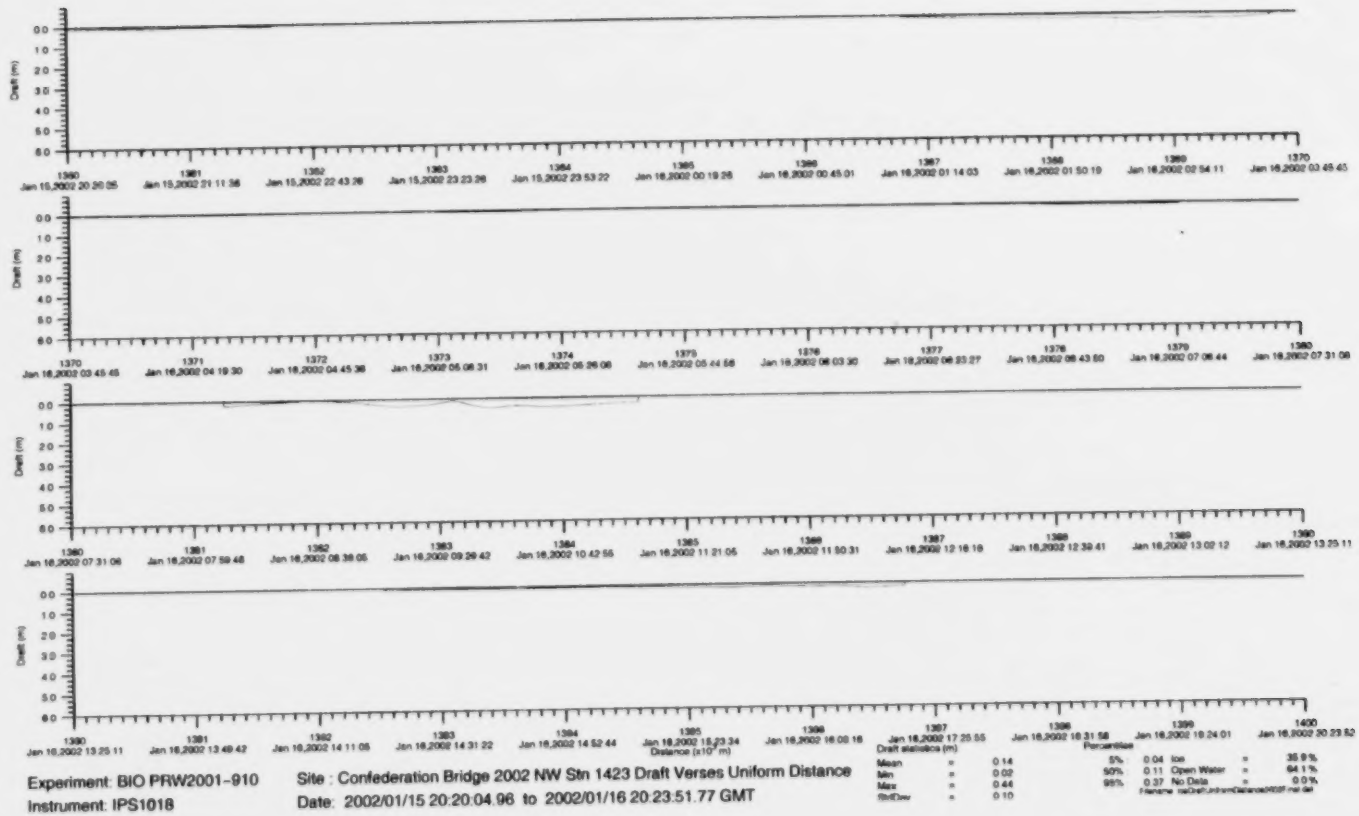

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1240 Jan 13,2002 16:55:47
1241 Jan 13,2002 16:17:47
1242 Jan 13,2002 16:36:54
1243 Jan 13,2002 16:55:37
1244 Jan 13,2002 17:13:15
1245 Jan 13,2002 17:29:58
1246 Jan 13,2002 17:45:34
1247 Jan 13,2002 18:01:26
1248 Jan 13,2002 18:18:16
1249 Jan 13,2002 18:36:14
1250 Jan 13,2002 18:55:46
1250 Jan 13,2002 18:55:46
1251 Jan 13,2002 19:17:58
1252 Jan 13,2002 19:45:29
1253 Jan 13,2002 20:21:43
1254 Jan 13,2002 21:12:58
1255 Jan 13,2002 22:00:14
1256 Jan 13,2002 22:33:22
1257 Jan 13,2002 23:13:24
1258 Jan 14,2002 00:02:06
1259 Jan 14,2002 00:37:56
1260 Jan 14,2002 01:07:05
1260 Jan 14,2002 01:07:05
1261 Jan 14,2002 01:35:07
1262 Jan 14,2002 02:02:12
1263 Jan 14,2002 02:29:53
1264 Jan 14,2002 02:56:21
1265 Jan 14,2002 03:30:20
1266 Jan 14,2002 04:03:25
1267 Jan 14,2002 04:39:01
1268 Jan 14,2002 05:17:54
1269 Jan 14,2002 06:32:24
1270 Jan 14,2002 07:26:37
1270 Jan 14,2002 07:26:37
1271 Jan 14,2002 07:47:08
1272 Jan 14,2002 08:03:19
1273 Jan 14,2002 08:17:43
1274 Jan 14,2002 08:30:33
1275 Jan 14,2002 08:42:14
1276 Jan 14,2002 08:53:00
1277 Jan 14,2002 09:02:51
1278 Jan 14,2002 09:12:33
1279 Jan 14,2002 09:22:07
1280 Jan 14,2002 09:31:16
Distance (x10³ m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/13 15:55:46.99 to 2002/01/14 09:31:15.67 GMT
Draft statistics (m)
Mean = 0.39
Min = 0.08
Max = 0.65
StdDev = 0.12
Percentiles
5% 0.14 Ice = 38.4 %
50% 0.41 Open Water = 61.6 %
95% 0.58 No Data = 0.0 %

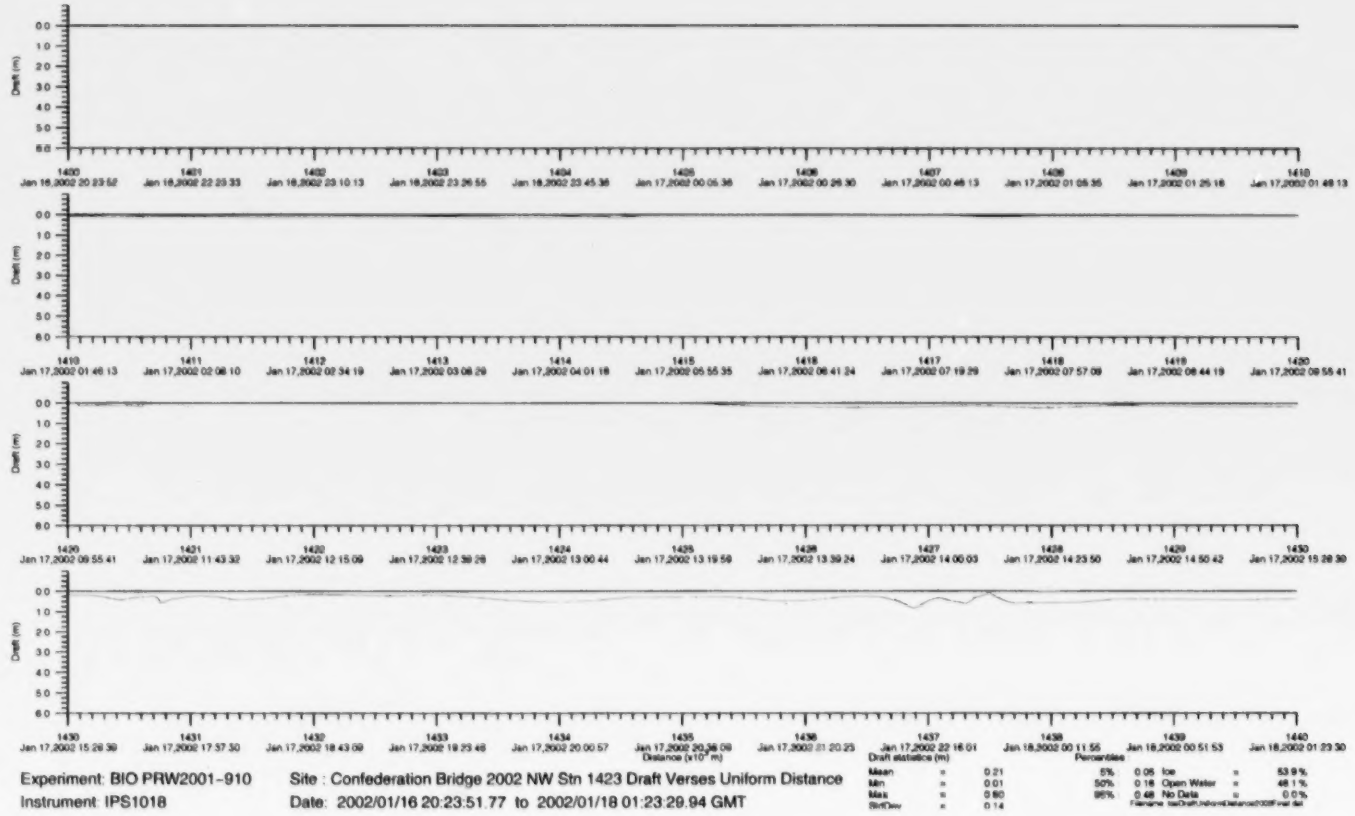


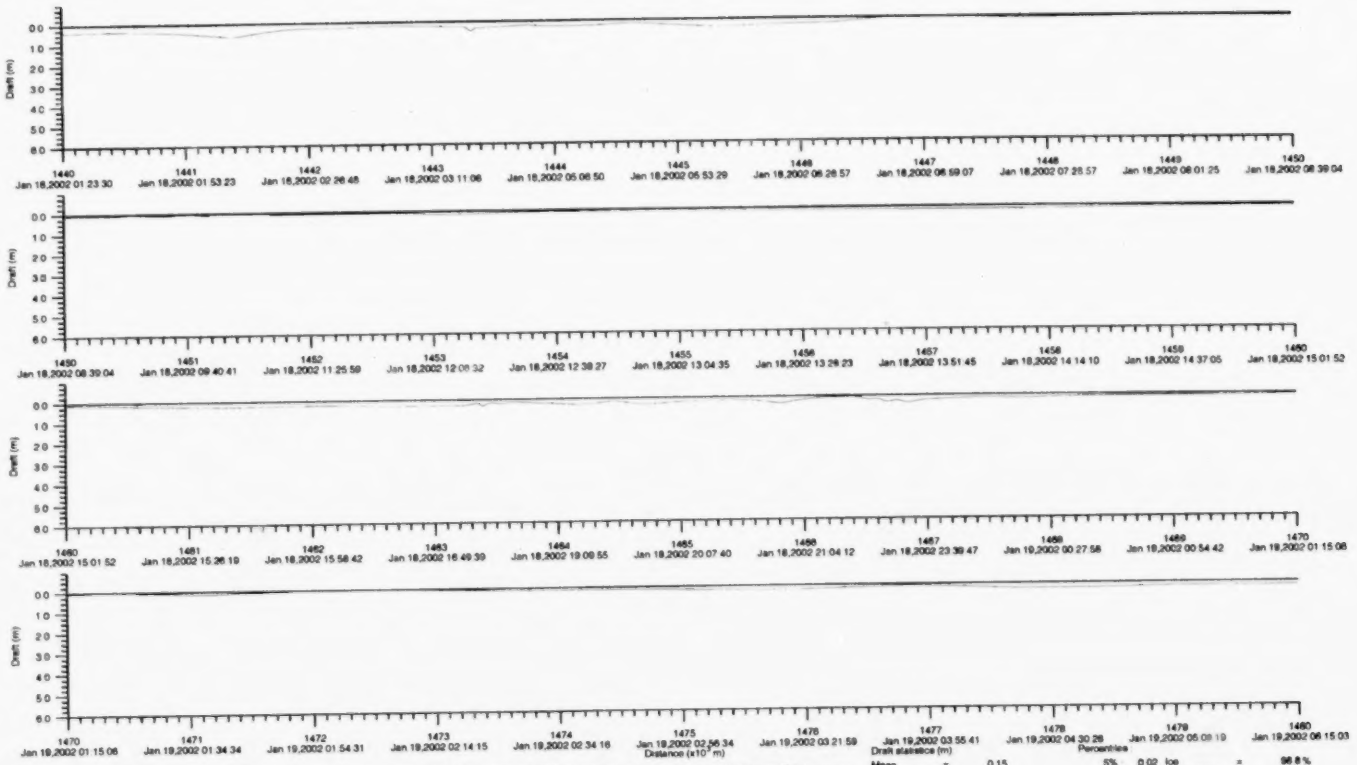
Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/14 09:31:15.67 to 2002/01/14 22:25:21.42 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1320 Jan 14,2002 22:25:21
1321 Jan 14,2002 22:47:03
1322 Jan 14,2002 23:08:24
1323 Jan 14,2002 23:28:50
1324 Jan 14,2002 23:48:19
1325 Jan 15,2002 00:07:53
1326 Jan 15,2002 00:26:02
1327 Jan 15,2002 00:49:20
1328 Jan 15,2002 01:13:23
1329 Jan 15,2002 01:44:21
1330 Jan 15,2002 02:30:47
1330 Jan 15,2002 02:30:47
1331 Jan 15,2002 04:25:06
1332 Jan 15,2002 05:08:24
1333 Jan 15,2002 05:35:52
1334 Jan 15,2002 06:04:47
1335 Jan 15,2002 06:32:17
1336 Jan 15,2002 07:06:16
1337 Jan 15,2002 07:49:58
1338 Jan 15,2002 08:49:09
1339 Jan 15,2002 09:54:53
1340 Jan 15,2002 10:23:23
1340 Jan 15,2002 10:23:23
1341 Jan 15,2002 10:45:03
1342 Jan 15,2002 11:03:34
1343 Jan 15,2002 11:20:12
1344 Jan 15,2002 11:35:45
1345 Jan 15,2002 11:51:50
1346 Jan 15,2002 12:08:00
1347 Jan 15,2002 12:24:38
1348 Jan 15,2002 12:41:16
1349 Jan 15,2002 12:59:20
1350 Jan 15,2002 13:19:32
1350 Jan 15,2002 13:19:32
1351 Jan 15,2002 13:45:56
1352 Jan 15,2002 14:35:09
1353 Jan 15,2002 16:34:07
1354 Jan 15,2002 17:17:35
1355 Jan 15,2002 17:51:38
1356 Jan 15,2002 18:21:38
1357 Jan 15,2002 18:51:05
1358 Jan 15,2002 19:18:18
1359 Jan 15,2002 19:48:06
1360 Jan 15,2002 20:20:05
Distance (x10³ m)
Draft statistics (m)
Mean = 0.14
Min = 0.00
Max = 0.29
StdDev = 0.07
Percentiles
5% 0.02 Ice = 21.6 %
50% 0.14 Open Water = 78.4 %
95% 0.26 No Data = 0.0 %
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/14 22:25:21.42 to 2002/01/15 20:20:04.96 GMT

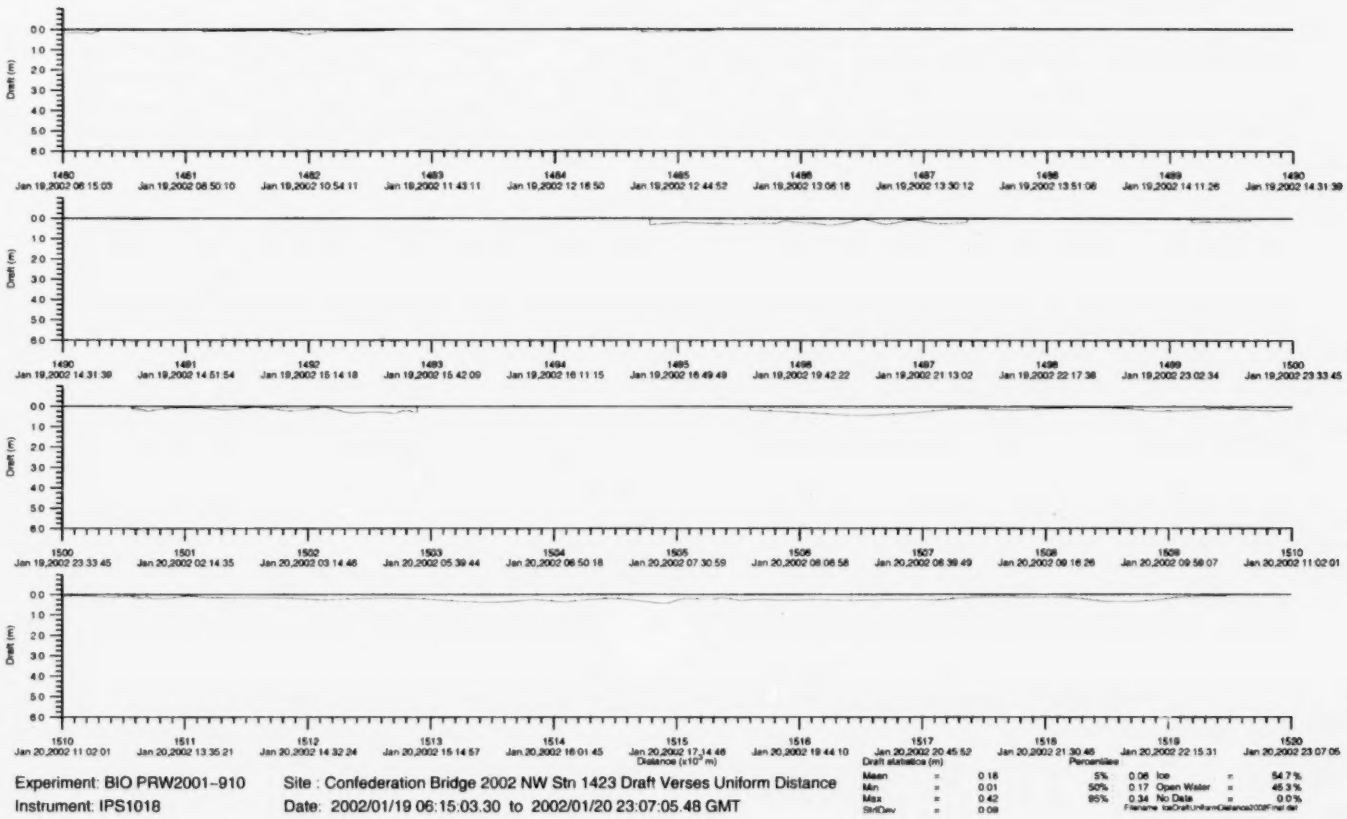

Draft (m)
Distance (x10³ m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/15 20:20:04.96 to 2002/01/16 20:23:51.77 GMT
Draft statistics (m)
Mean = 0.14
Min = 0.02
Max = 0.44
StdDev = 0.10
Percentiles
5% 0.04 Ice = 35.9 %
50% 0.11 Open Water = 64.1 %
95% 0.37 No Data = 0.0 %

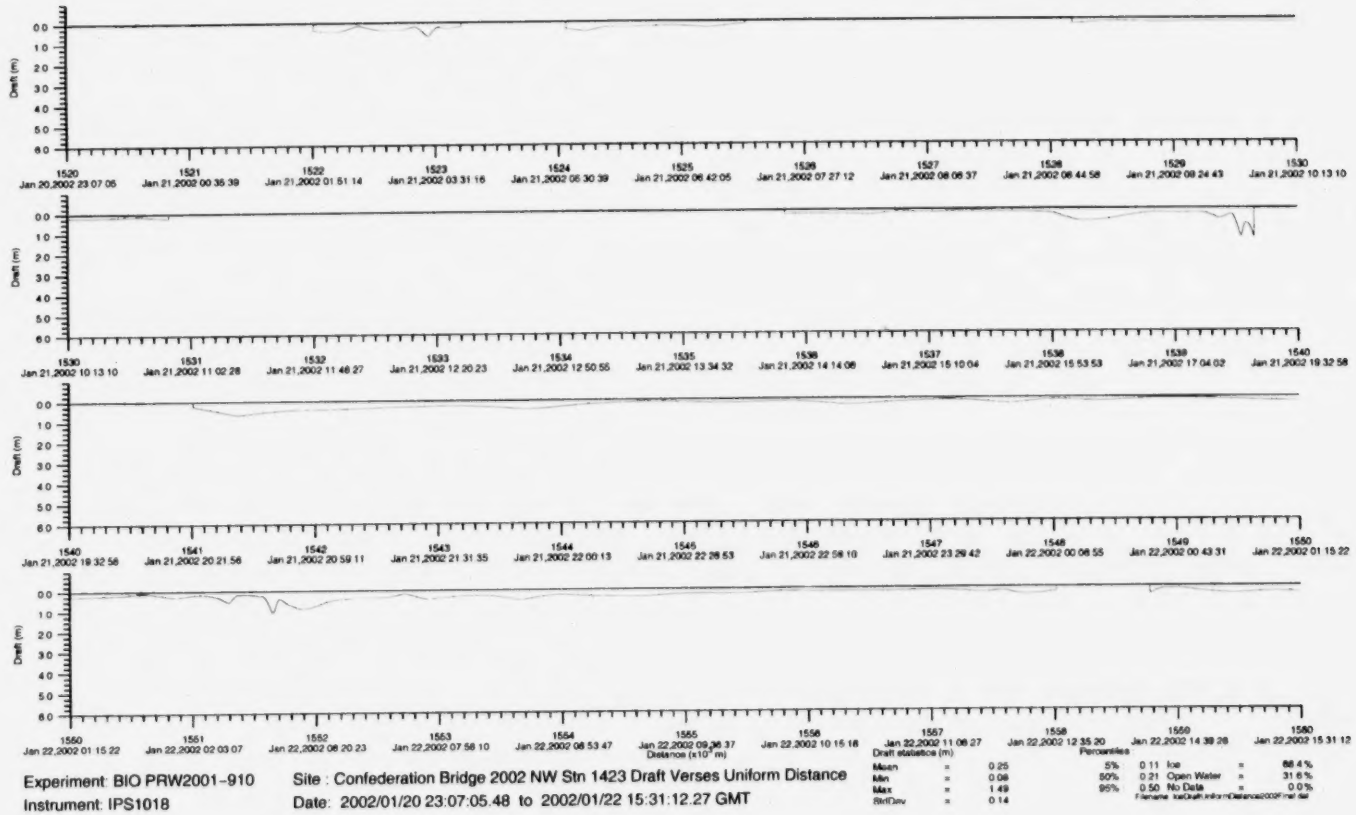

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1400 Jan 16,2002 20:23:52
1401 Jan 16,2002 22:25:33
1402 Jan 16,2002 23:10:13
1403 Jan 16,2002 23:26:55
1404 Jan 16,2002 23:45:36
1405 Jan 17,2002 00:05:36
1406 Jan 17,2002 00:26:30
1407 Jan 17,2002 00:46:13
1408 Jan 17,2002 01:05:35
1409 Jan 17,2002 01:25:16
1410 Jan 17,2002 01:46:13
1410 Jan 17,2002 01:46:13
1411 Jan 17,2002 02:06:10
1412 Jan 17,2002 02:34:19
1413 Jan 17,2002 03:08:29
1414 Jan 17,2002 04:01:18
1415 Jan 17,2002 05:55:35
1416 Jan 17,2002 06:41:24
1417 Jan 17,2002 07:19:29
1418 Jan 17,2002 07:57:09
1419 Jan 17,2002 08:44:19
1420 Jan 17,2002 09:55:41
1420 Jan 17,2002 09:55:41
1421 Jan 17,2002 11:43:32
1422 Jan 17,2002 12:15:09
1423 Jan 17,2002 12:39:28
1424 Jan 17,2002 13:00:44
1425 Jan 17,2002 13:19:56
1426 Jan 17,2002 13:39:24
1427 Jan 17,2002 14:00:03
1428 Jan 17,2002 14:23:50
1429 Jan 17,2002 14:50:42
1430 Jan 17,2002 15:28:30
1430 Jan 17,2002 15:28:30
1431 Jan 17,2002 17:37:30
1432 Jan 17,2002 18:43:09
1433 Jan 17,2002 19:23:48
1434 Jan 17,2002 20:00:57
1435 Jan 17,2002 20:36:09
Distance (x10³ m)
1436 Jan 17,2002 21:20:25
1437 Jan 17,2002 22:16:01
1438 Jan 18,2002 00:11:55
1439 Jan 18,2002 00:51:53
1440 Jan 18,2002 01:23:30
Draft statistics (m)
Mean = 0.21
Min = 0.01
Max = 0.60
StdDev = 0.14
Percentiles
5% 0.05
50% 0.18
95% 0.48
Ice = 53.9%
Open Water = 46.1%
No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/16 20:23:51.77 to 2002/01/18 01:23:29.94 GMT

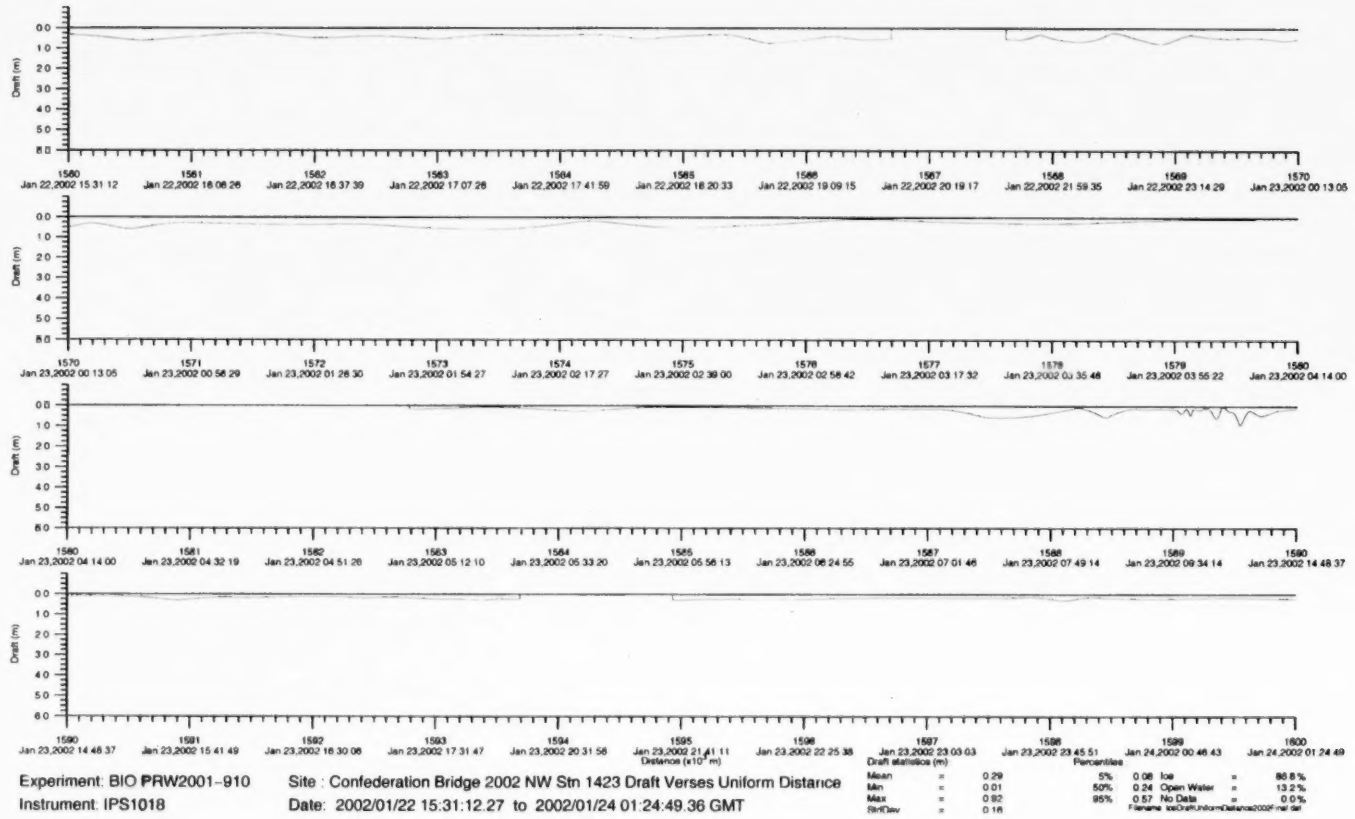


Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/18 01:23:29.94 to 2002/01/19 06:15:03.30 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1480 Jan 19,2002 06:15:03
1481 Jan 19,2002 08:50:10
1482 Jan 19,2002 10:54:11
1483 Jan 19,2002 11:43:11
1484 Jan 19,2002 12:18:50
1485 Jan 19,2002 12:44:52
1486 Jan 19,2002 13:06:18
1487 Jan 19,2002 13:30:12
1488 Jan 19,2002 13:51:06
1489 Jan 19,2002 14:11:26
1490 Jan 19,2002 14:31:39
1490 Jan 19,2002 14:31:39
1491 Jan 19,2002 14:51:54
1492 Jan 19,2002 15:14:18
1493 Jan 19,2002 15:42:09
1494 Jan 19,2002 16:11:15
1495 Jan 19,2002 16:49:49
1496 Jan 19,2002 19:42:22
1497 Jan 19,2002 21:13:02
1498 Jan 19,2002 22:17:38
1499 Jan 19,2002 23:02:34
1500 Jan 19,2002 23:33:45
1500 Jan 19,2002 23:33:45
1501 Jan 20,2002 02:14:35
1502 Jan 20,2002 03:14:46
1503 Jan 20,2002 05:39:44
1504 Jan 20,2002 06:50:18
1505 Jan 20,2002 07:30:59
1506 Jan 20,2002 08:06:58
1507 Jan 20,2002 08:39:49
1508 Jan 20,2002 09:16:26
1509 Jan 20,2002 09:58:07
1510 Jan 20,2002 11:02:01
1510 Jan 20,2002 11:02:01
1511 Jan 20,2002 13:35:21
1512 Jan 20,2002 14:32:24
1513 Jan 20,2002 15:14:57
1514 Jan 20,2002 16:01:45
1515 Jan 20,2002 17:14:46
Distance (x10³ m)
1516 Jan 20,2002 19:44:10
1517 Jan 20,2002 20:45:52
1518 Jan 20,2002 21:30:48
1519 Jan 20,2002 22:15:31
1520 Jan 20,2002 23:07:05
Draft statistics (m)
Mean = 0.16
Min = 0.01
Max = 0.42
StdDev = 0.08
Percentiles
5% 0.06
50% 0.17
95% 0.34
Ice = 54.7%
Open Water = 45.3%
No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/19 06:15:03.30 to 2002/01/20 23:07:05.48 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1520 Jan 20,2002 23:07:05
1521 Jan 21,2002 00:35:39
1522 Jan 21,2002 01:51:14
1523 Jan 21,2002 03:31:16
1524 Jan 21,2002 05:30:39
1525 Jan 21,2002 06:42:05
1526 Jan 21,2002 07:27:12
1527 Jan 21,2002 08:06:37
1528 Jan 21,2002 08:44:58
1529 Jan 21,2002 09:24:43
1530 Jan 21,2002 10:13:10
1530 Jan 21,2002 10:13:10
1531 Jan 21,2002 11:02:28
1532 Jan 21,2002 11:46:27
1533 Jan 21,2002 12:20:23
1534 Jan 21,2002 12:50:55
1535 Jan 21,2002 13:34:32
1536 Jan 21,2002 14:14:06
1537 Jan 21,2002 15:10:04
1538 Jan 21,2002 15:53:53
1539 Jan 21,2002 17:04:02
1540 Jan 21,2002 19:32:56
1540 Jan 21,2002 19:32:56
1541 Jan 21,2002 20:21:56
1542 Jan 21,2002 20:59:11
1543 Jan 21,2002 21:31:35
1544 Jan 21,2002 22:00:13
1545 Jan 21,2002 22:28:53
1546 Jan 21,2002 22:58:10
1547 Jan 21,2002 23:29:42
1548 Jan 22,2002 00:06:55
1549 Jan 22,2002 00:43:31
1550 Jan 22,2002 01:15:22
1550 Jan 22,2002 01:15:22
1551 Jan 22,2002 02:03:07
1552 Jan 22,2002 06:20:23
1553 Jan 22,2002 07:56:10
1554 Jan 22,2002 08:53:47
1555 Jan 22,2002 09:36:37
Distance (x10³ m)
1556 Jan 22,2002 10:15:18
1557 Jan 22,2002 11:06:27
1558 Jan 22,2002 12:35:20
1559 Jan 22,2002 14:39:28
1560 Jan 22,2002 15:31:12
Draft statistics (m)
Mean = 0.25
Min = 0.08
Max = 1.49
StdDev = 0.14
Percentiles
5% 0.11
50% 0.21
95% 0.50
Ice = 68.4 %
Open Water = 31.6 %
No Data = 0.0 %
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/20 23:07:05.48 to 2002/01/22 15:31:12.27 GMT



Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/22 15:31:12.27 to 2002/01/24 01:24:49.36 GMT

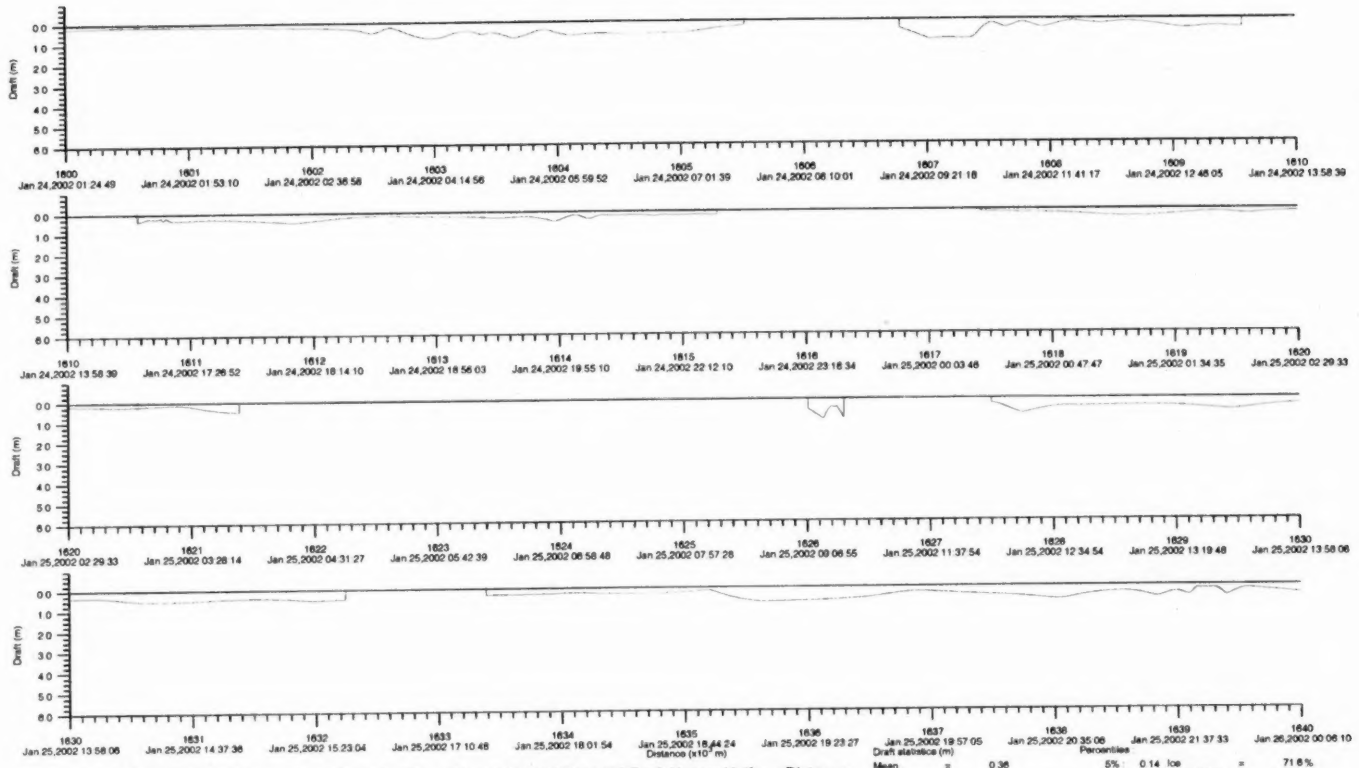
Draft statistics (m)

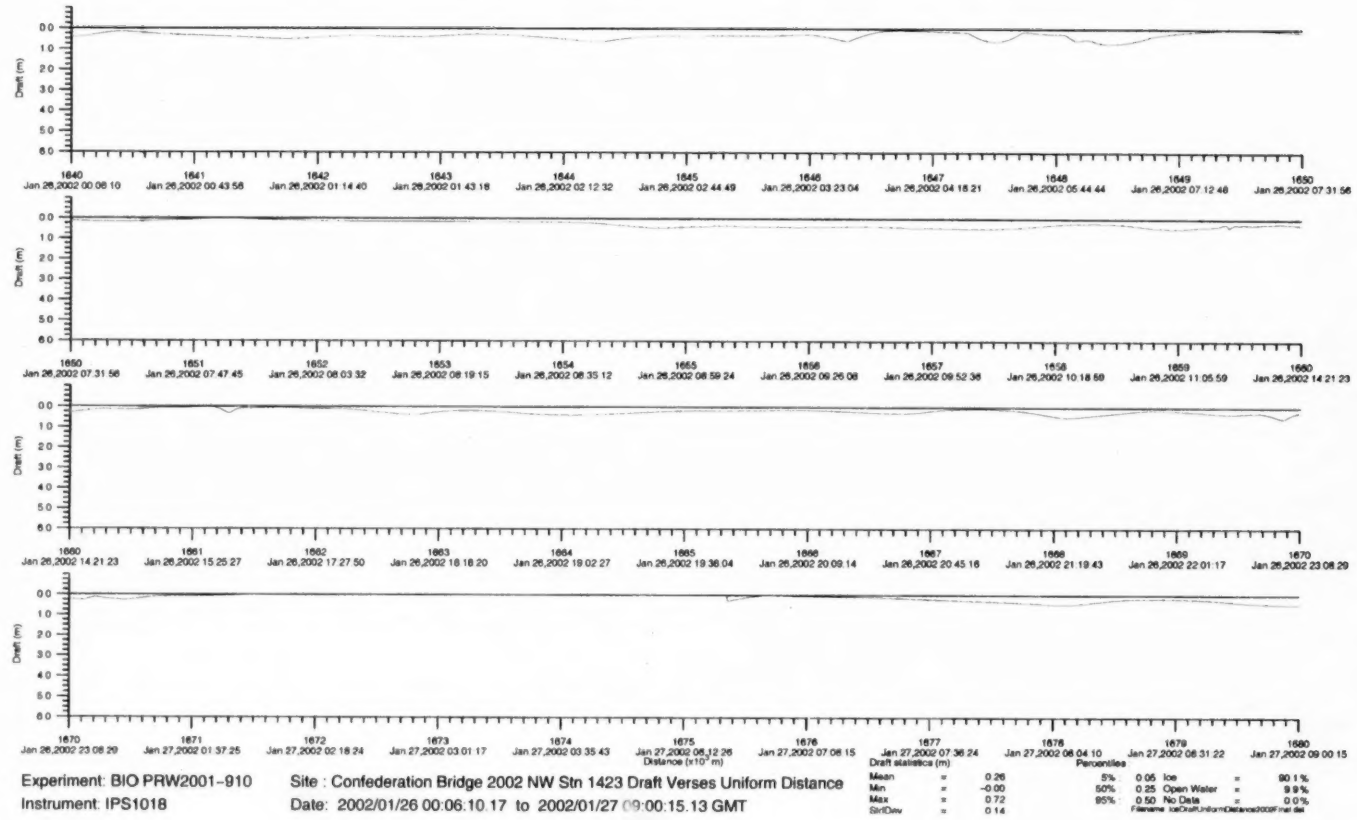
Mean	=	0.29
Min	=	0.01
Max	=	0.92
StdDev	=	0.16

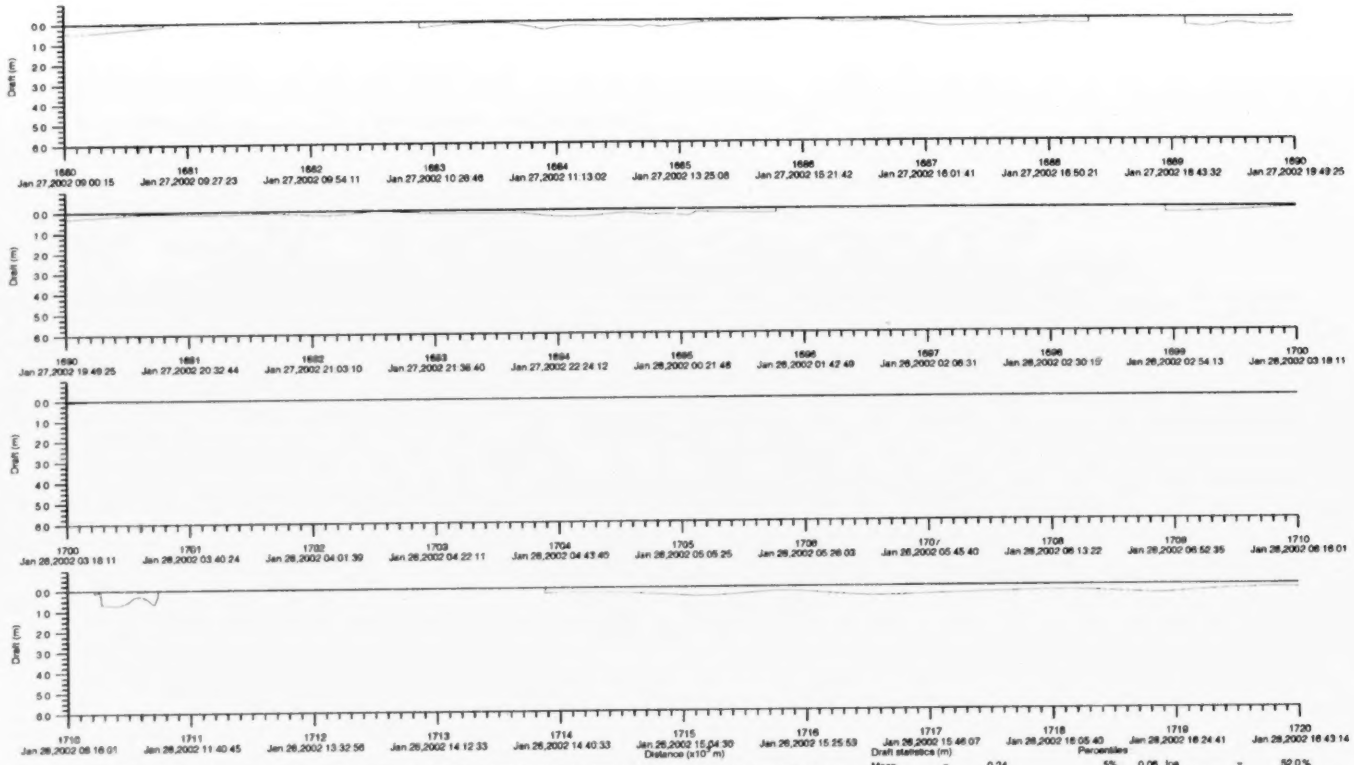
Percentiles

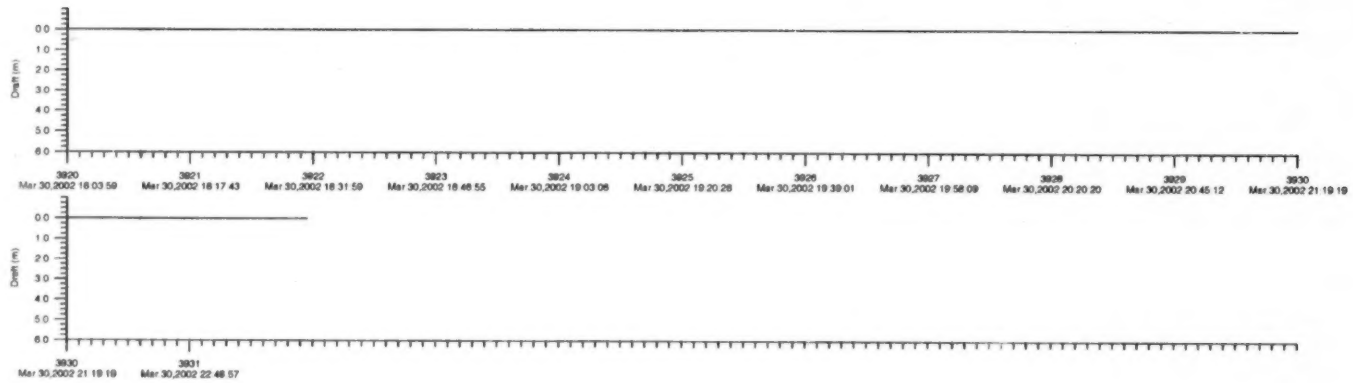
5%	0.08	Ice	=	88.8%
50%	0.24	Open Water	=	13.2%
95%	0.57	No Data	=	0.0%

Filename: Ice\Draft\Uniform-Distance2002Final.dat


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1600 Jan 24,2002 01:24:49
1601 Jan 24,2002 01:53:10
1602 Jan 24,2002 02:36:58
1603 Jan 24,2002 04:14:56
1604 Jan 24,2002 05:59:52
1605 Jan 24,2002 07:01:39
1606 Jan 24,2002 08:10:01
1607 Jan 24,2002 09:21:18
1608 Jan 24,2002 11:41:17
1609 Jan 24,2002 12:46:05
1610 Jan 24,2002 13:58:39
1610 Jan 24,2002 13:58:39
1611 Jan 24,2002 17:26:52
1612 Jan 24,2002 18:14:10
1613 Jan 24,2002 18:56:03
1614 Jan 24,2002 19:55:10
1615 Jan 24,2002 22:12:10
1616 Jan 24,2002 23:16:34
1617 Jan 25,2002 00:03:46
1618 Jan 25,2002 00:47:47
1619 Jan 25,2002 01:34:35
1620 Jan 25,2002 02:29:33
1620 Jan 25,2002 02:29:33
1621 Jan 25,2002 03:28:14
1622 Jan 25,2002 04:31:27
1623 Jan 25,2002 05:42:39
1624 Jan 25,2002 06:58:48
1625 Jan 25,2002 07:57:26
1626 Jan 25,2002 09:06:55
1627 Jan 25,2002 11:37:54
1628 Jan 25,2002 12:34:54
1629 Jan 25,2002 13:19:48
1630 Jan 25,2002 13:58:06
1630 Jan 25,2002 13:58:06
1631 Jan 25,2002 14:37:36
1632 Jan 25,2002 15:23:04
1633 Jan 25,2002 17:10:48
1634 Jan 25,2002 18:01:54
1635 Jan 25,2002 18:44:24
Distance (x10^4 m)
1636 Jan 25,2002 19:23:27
1637 Jan 25,2002 19:57:05
1638 Jan 25,2002 20:35:06
1639 Jan 25,2002 21:37:33
1640 Jan 26,2002 00:06:10
Draft statistics (m)
Mean = 0.36
Min = 0.11
Max = 1.02
StdDev = 0.18
Percentiles
5% : 0.14 Ice = 71.6%
50% : 0.33 Open Water = 28.4%
95% : 0.69 No Data = 0.0%
Filename: IceDraftUniformDistance2002Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/24 01:24:49.36 to 2002/01/26 00:06:10.17 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1640 Jan 26,2002 00:06:10
1641 Jan 26,2002 00:43:58
1642 Jan 26,2002 01:14:40
1643 Jan 26,2002 01:43:18
1644 Jan 26,2002 02:12:32
1645 Jan 26,2002 02:44:49
1646 Jan 26,2002 03:23:04
1647 Jan 26,2002 04:18:21
1648 Jan 26,2002 05:44:44
1649 Jan 26,2002 07:12:46
1650 Jan 26,2002 07:31:56
1650 Jan 26,2002 07:31:56
1651 Jan 26,2002 07:47:45
1652 Jan 26,2002 08:03:32
1653 Jan 26,2002 08:19:15
1654 Jan 26,2002 08:35:12
1655 Jan 26,2002 08:59:24
1656 Jan 26,2002 09:26:08
1657 Jan 26,2002 09:52:36
1658 Jan 26,2002 10:18:59
1659 Jan 26,2002 11:05:59
1660 Jan 26,2002 14:21:23
1660 Jan 26,2002 14:21:23
1661 Jan 26,2002 15:25:27
1662 Jan 26,2002 17:27:50
1663 Jan 26,2002 18:18:20
1664 Jan 26,2002 19:02:27
1665 Jan 26,2002 19:36:04
1666 Jan 26,2002 20:09:14
1667 Jan 26,2002 20:45:16
1668 Jan 26,2002 21:19:43
1669 Jan 26,2002 22:01:17
1670 Jan 26,2002 23:08:29
1670 Jan 26,2002 23:08:29
1671 Jan 27,2002 01:37:25
1672 Jan 27,2002 02:18:24
1673 Jan 27,2002 03:01:17
1674 Jan 27,2002 03:35:43
1675 Jan 27,2002 06:12:26
Distance (x10³ m)
1676 Jan 27,2002 07:08:15
1677 Jan 27,2002 07:36:24
1678 Jan 27,2002 08:04:10
1679 Jan 27,2002 08:31:22
1680 Jan 27,2002 09:00:15
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/26 00:06:10.17 to 2002/01/27 09:00:15.13 GMT
Draft statistics (m)
Mean = 0.26
Min = -0.00
Max = 0.72
StdDev = 0.14
Percentiles
5% 0.05 Ice = 90.1%
50% 0.25 Open Water = 9.9%
95% 0.50 No Data = 0.0%
Filename IceDraftUniformDistance2002Final.dat


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1680 Jan 27,2002 09:00:15
1681 Jan 27,2002 09:27:23
1682 Jan 27,2002 09:54:11
1683 Jan 27,2002 10:26:46
1684 Jan 27,2002 11:13:02
1685 Jan 27,2002 13:25:08
1686 Jan 27,2002 15:21:42
1687 Jan 27,2002 16:01:41
1688 Jan 27,2002 16:50:21
1689 Jan 27,2002 18:43:32
1690 Jan 27,2002 19:49:25
1690 Jan 27,2002 19:49:25
1691 Jan 27,2002 20:32:44
1692 Jan 27,2002 21:03:10
1693 Jan 27,2002 21:38:40
1694 Jan 27,2002 22:24:12
1695 Jan 28,2002 00:21:46
1696 Jan 28,2002 01:47:49
1697 Jan 28,2002 02:06:31
1698 Jan 28,2002 02:30:19
1699 Jan 28,2002 02:54:13
1700 Jan 28,2002 03:18:11
1700 Jan 28,2002 03:18:11
1701 Jan 28,2002 03:40:24
1702 Jan 28,2002 04:01:39
1703 Jan 28,2002 04:22:11
1704 Jan 28,2002 04:43:46
1705 Jan 28,2002 05:05:25
1706 Jan 28,2002 05:26:03
1707 Jan 28,2002 05:45:40
1708 Jan 28,2002 06:13:22
1709 Jan 28,2002 06:52:35
1710 Jan 28,2002 08:16:01
1710 Jan 28,2002 08:16:01
1711 Jan 28,2002 11:40:45
1712 Jan 28,2002 13:32:56
1713 Jan 28,2002 14:12:33
1714 Jan 28,2002 14:40:33
1715 Jan 28,2002 15:04:30
Distance (x10³ m)
1716 Jan 28,2002 15:25:53
1717 Jan 28,2002 15:46:07
1718 Jan 28,2002 16:05:40
1719 Jan 28,2002 16:24:41
1720 Jan 28,2002 16:43:14
Draft statistics (m)
Mean = 0.24
Min = 0.00
Max = 0.72
StdDev = 0.12
Percentiles
5% 0.06 Ice = 52.0%
50% 0.25 Open Water = 48.0%
95% 0.43 No Data = 0.0%
Filename: IceDraftUniformDistance002Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/27 09:00:15.13 to 2002/01/28 16:43:14.07 GMT



Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/30 18:03:58.50 to 2002/03/30 23:22:28.16 GMT

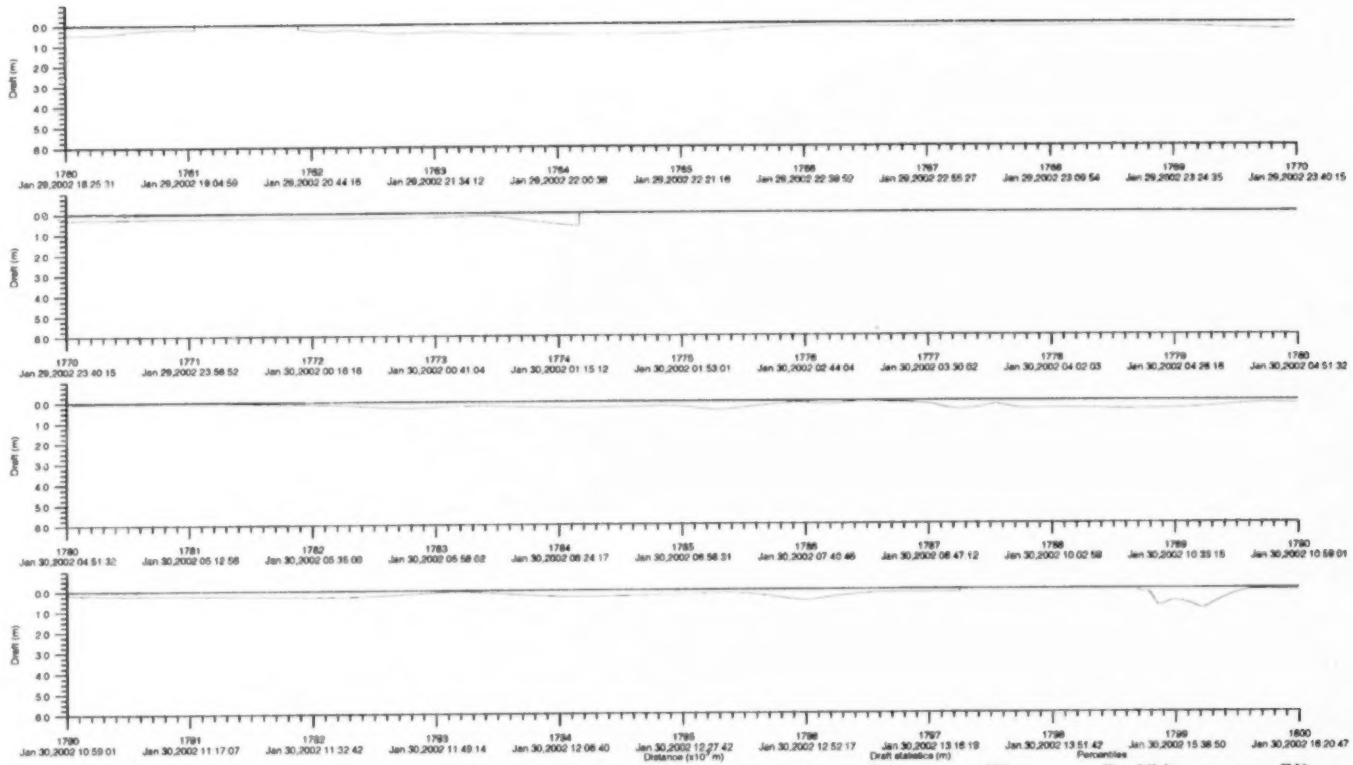
Draft statistics (m)

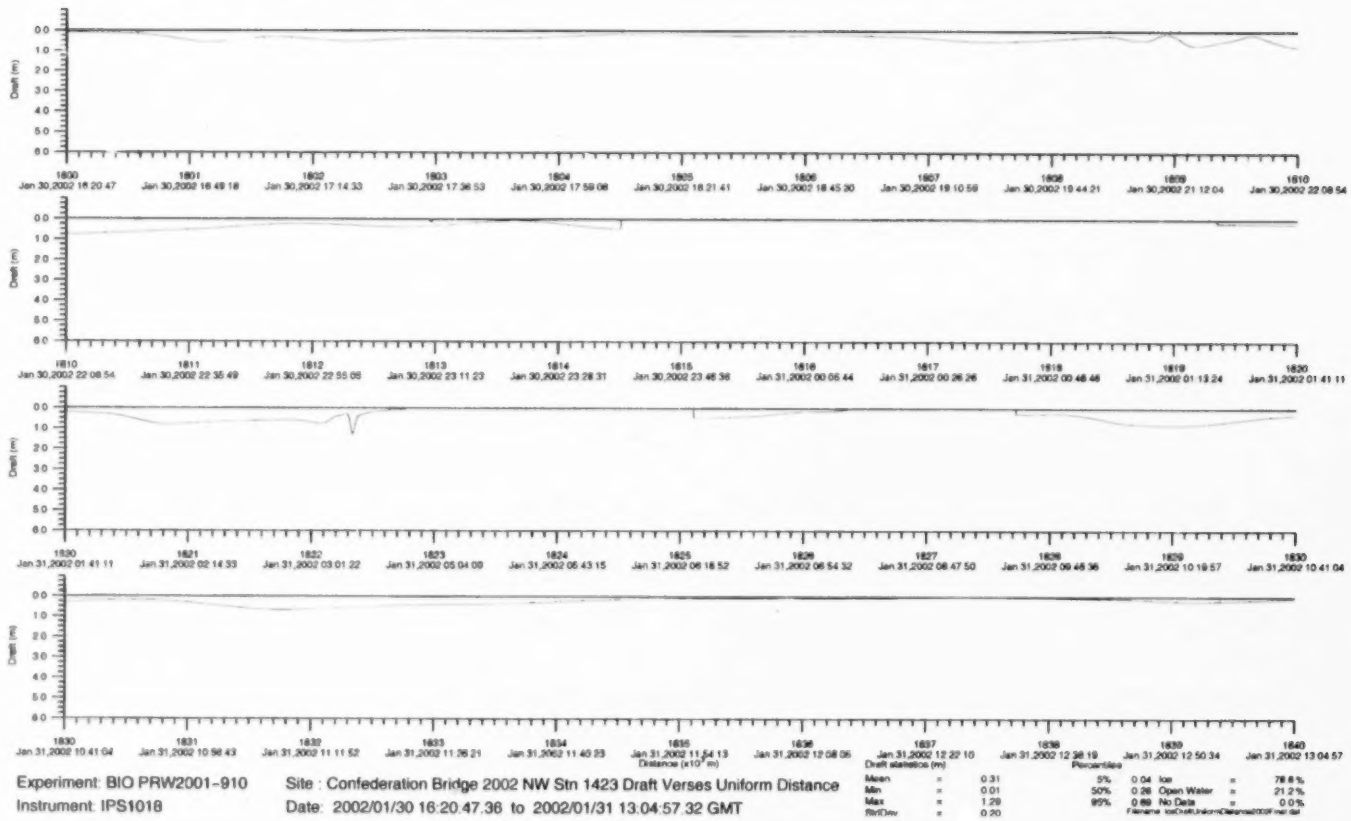
Mean	=	0.00
Min	=	0.00
Max	=	0.00
StdDev	=	0.00

Percentiles

5%	0.00	Ice	=	0.0%
50%	0.00	Open Water	=	100.0%
95%	0.00	No Data	=	0.0%

Filename: \\a\Draft\UniformDistance\1003Final.dat


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
1760 Jan 29,2002 18:25:31
1761 Jan 29,2002 19:04:59
1762 Jan 29,2002 20:44:16
1763 Jan 29,2002 21:34:12
1764 Jan 29,2002 22:00:38
1765 Jan 29,2002 22:21:16
1766 Jan 29,2002 22:38:52
1767 Jan 29,2002 22:55:27
1768 Jan 29,2002 23:09:54
1769 Jan 29,2002 23:24:35
1770 Jan 29,2002 23:40:15
1770 Jan 29,2002 23:40:15
1771 Jan 29,2002 23:58:52
1772 Jan 30,2002 00:16:16
1773 Jan 30,2002 00:41:04
1774 Jan 30,2002 01:15:12
1775 Jan 30,2002 01:53:01
1776 Jan 30,2002 02:44:04
1777 Jan 30,2002 03:30:02
1778 Jan 30,2002 04:02:03
1779 Jan 30,2002 04:26:16
1780 Jan 30,2002 04:51:32
1780 Jan 30,2002 04:51:32
1781 Jan 30,2002 05:12:58
1782 Jan 30,2002 05:35:00
1783 Jan 30,2002 05:58:02
1784 Jan 30,2002 06:24:17
1785 Jan 30,2002 06:58:31
1786 Jan 30,2002 07:40:46
1787 Jan 30,2002 08:47:12
1788 Jan 30,2002 10:02:59
1789 Jan 30,2002 10:33:15
1790 Jan 30,2002 10:59:01
1790 Jan 30,2002 10:59:01
1791 Jan 30,2002 11:17:07
1792 Jan 30,2002 11:32:42
1793 Jan 30,2002 11:49:14
1794 Jan 30,2002 12:06:40
1795 Jan 30,2002 12:27:42
Distance (x10^3 m)
1796 Jan 30,2002 12:52:17
1797 Jan 30,2002 13:16:19
1798 Jan 30,2002 13:51:42
1799 Jan 30,2002 15:36:50
1800 Jan 30,2002 16:20:47
Draft statistics (m)
Mean = 0.26
Min = 0.02
Max = 0.97
StdDev = 0.14
Percentiles
5% 0.05
50% 0.24
95% 0.51
Ice = 79.6 %
Open Water = 20.4 %
No Data = 0.0 %
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/29 18:25:31.00 to 2002/01/30 16:20:47.36 GMT

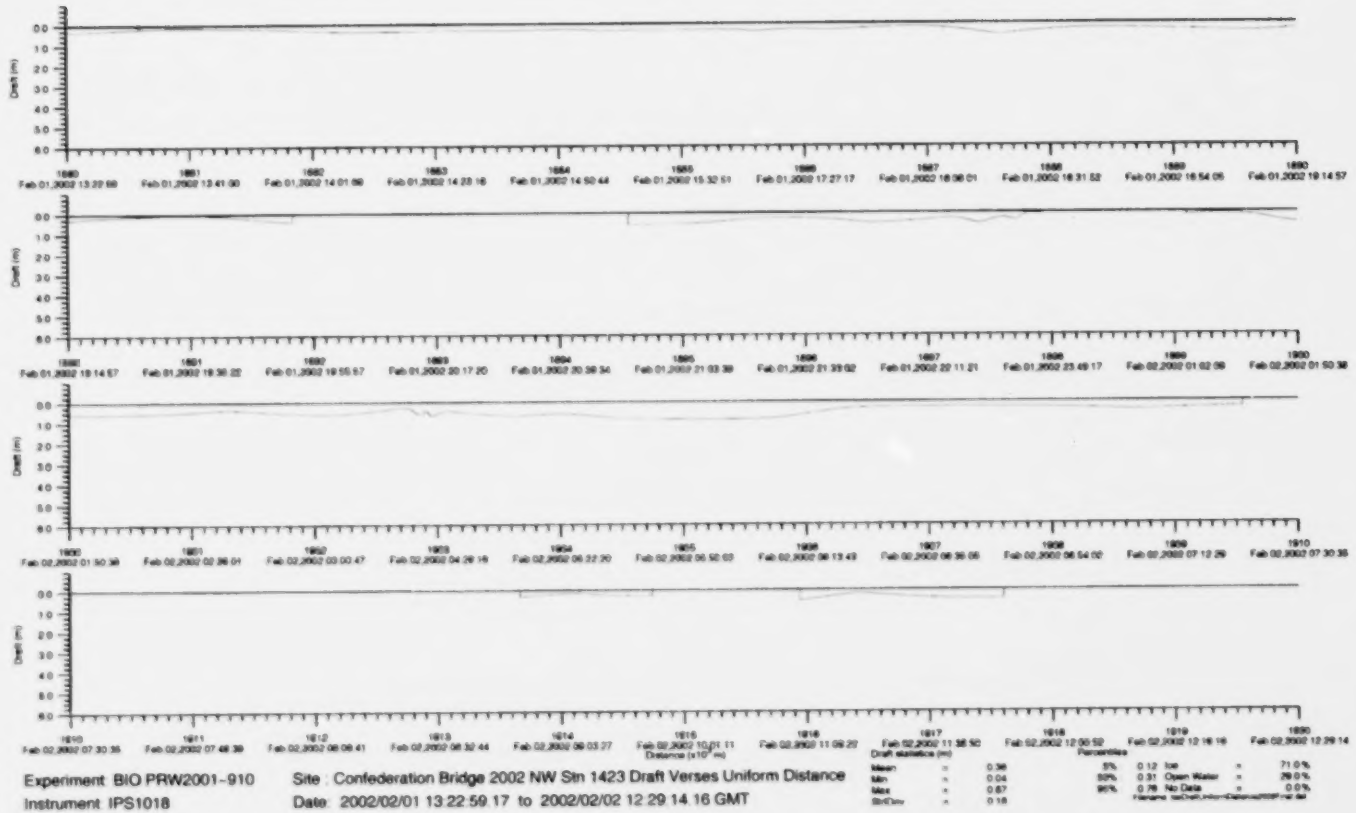


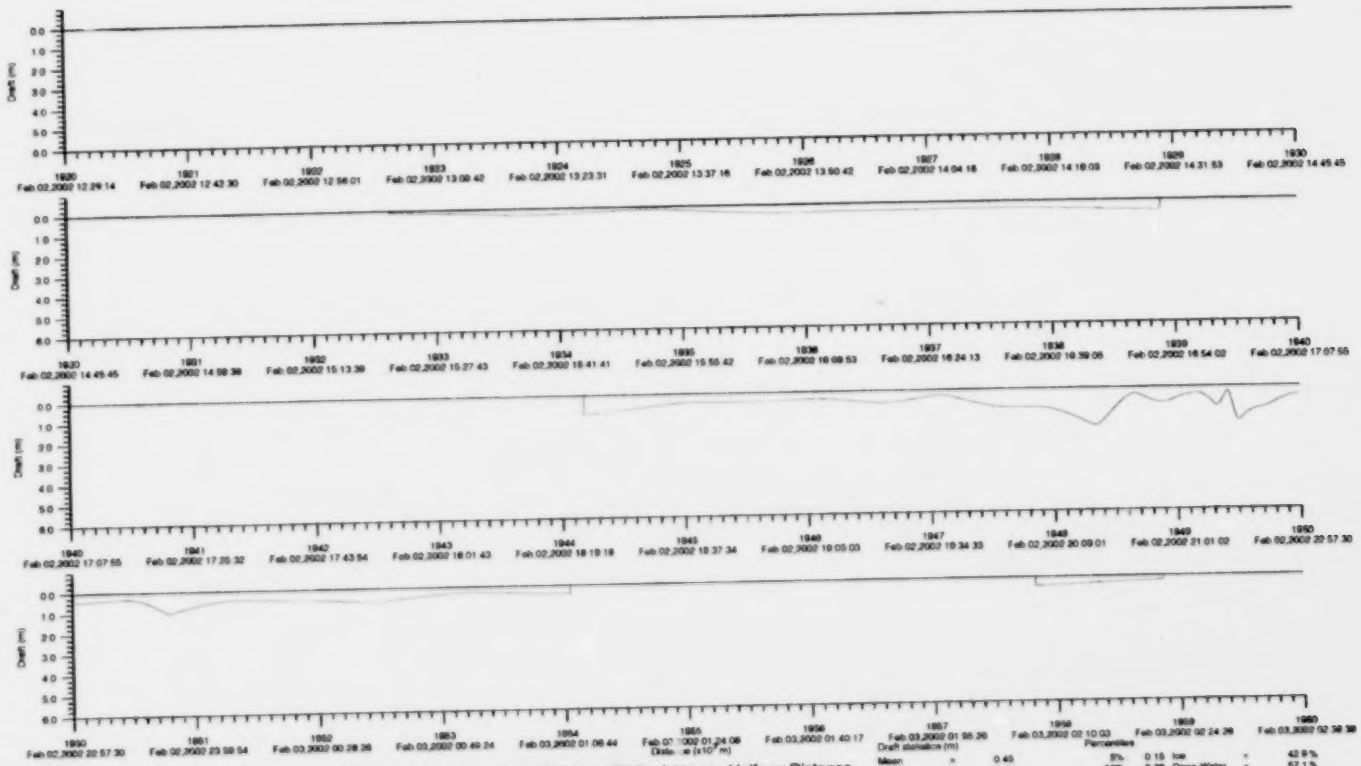
Experiment: BIO PRW2001-910 Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance

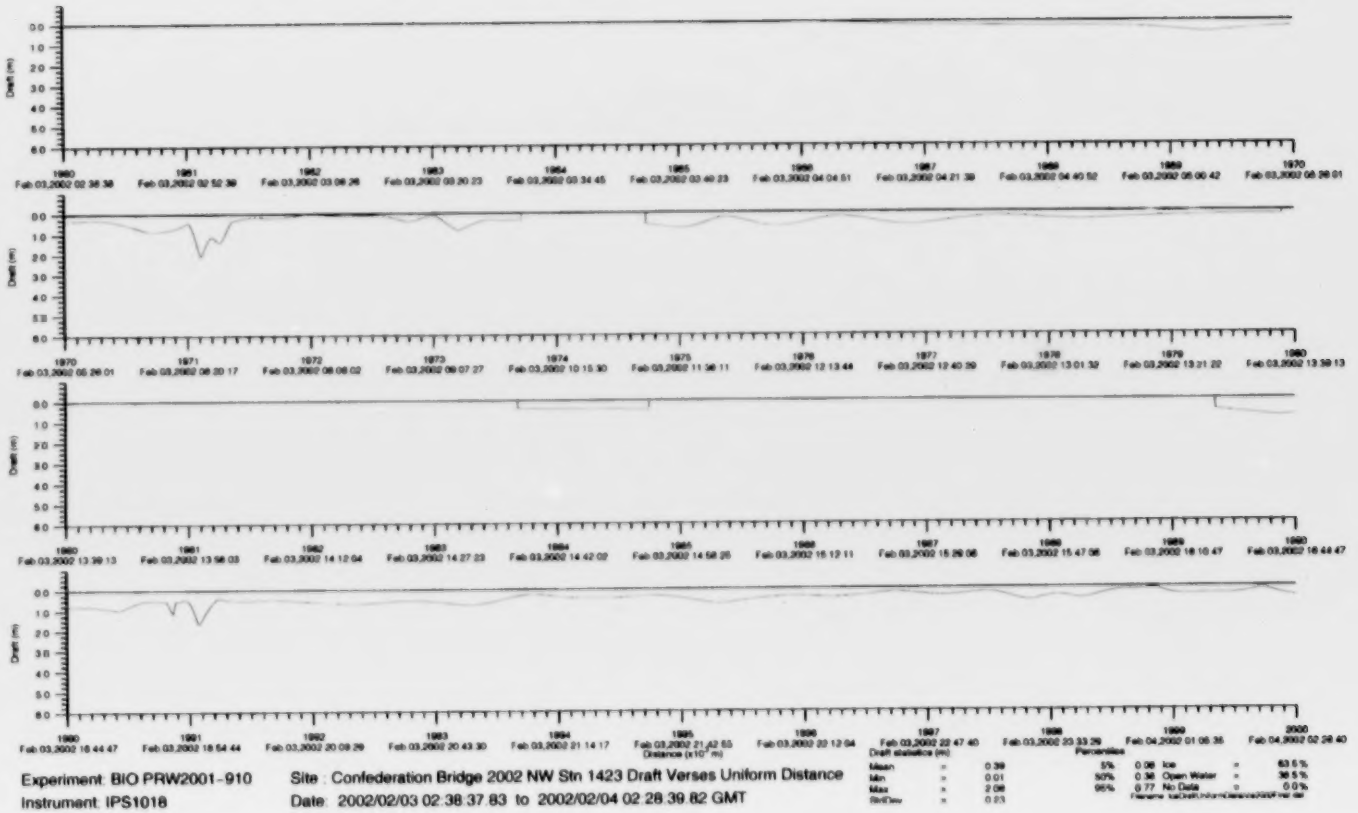
Instrument: IPS1018 Date: 2002/01/30 16:20:47.36 to 2002/01/31 13:04:57.32 GMT

Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/01/31 13:04:57.32 to 2002/02/01 13:22:59.17 GMT

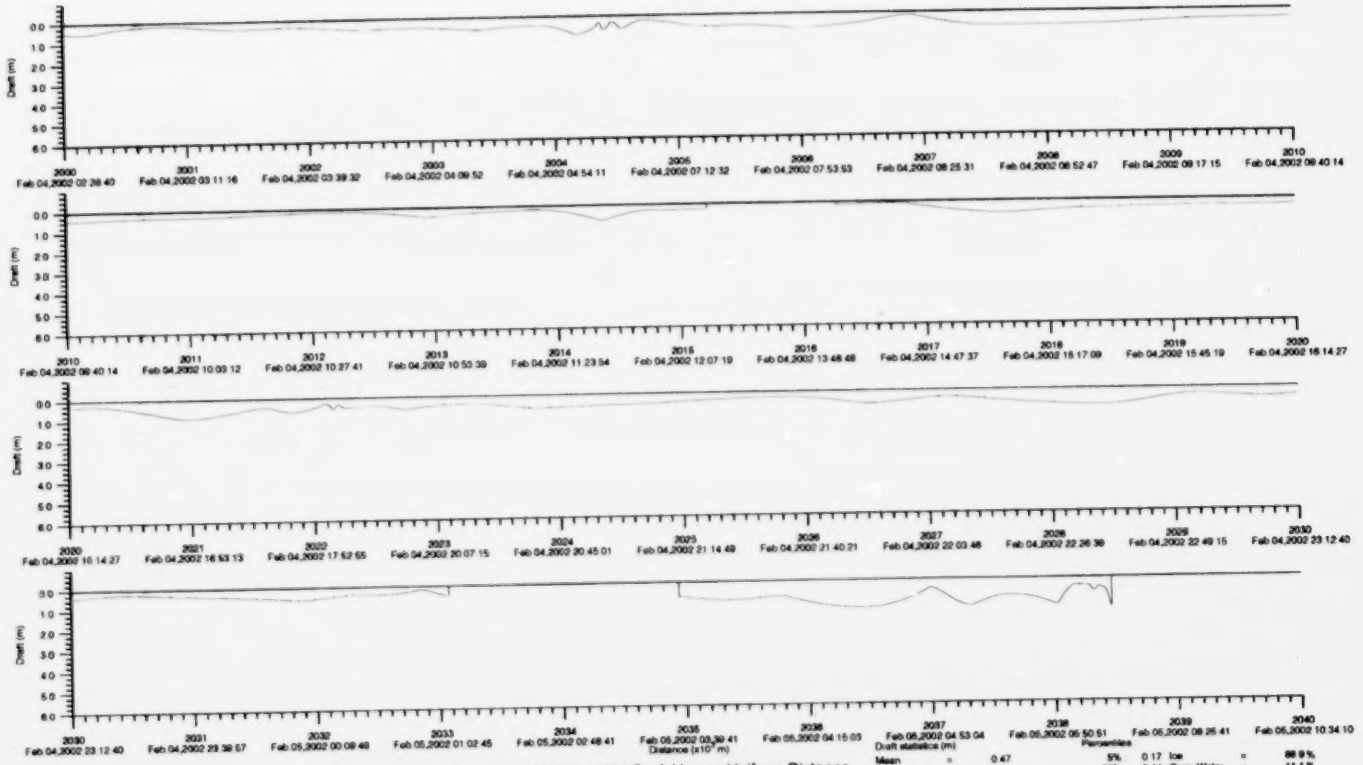

Draft (m)
Distance (x10³ m)
Experiment BIO PRW2001-910
Instrument IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/01 13:22:59.17 to 2002/02/02 12:29:14.16 GMT

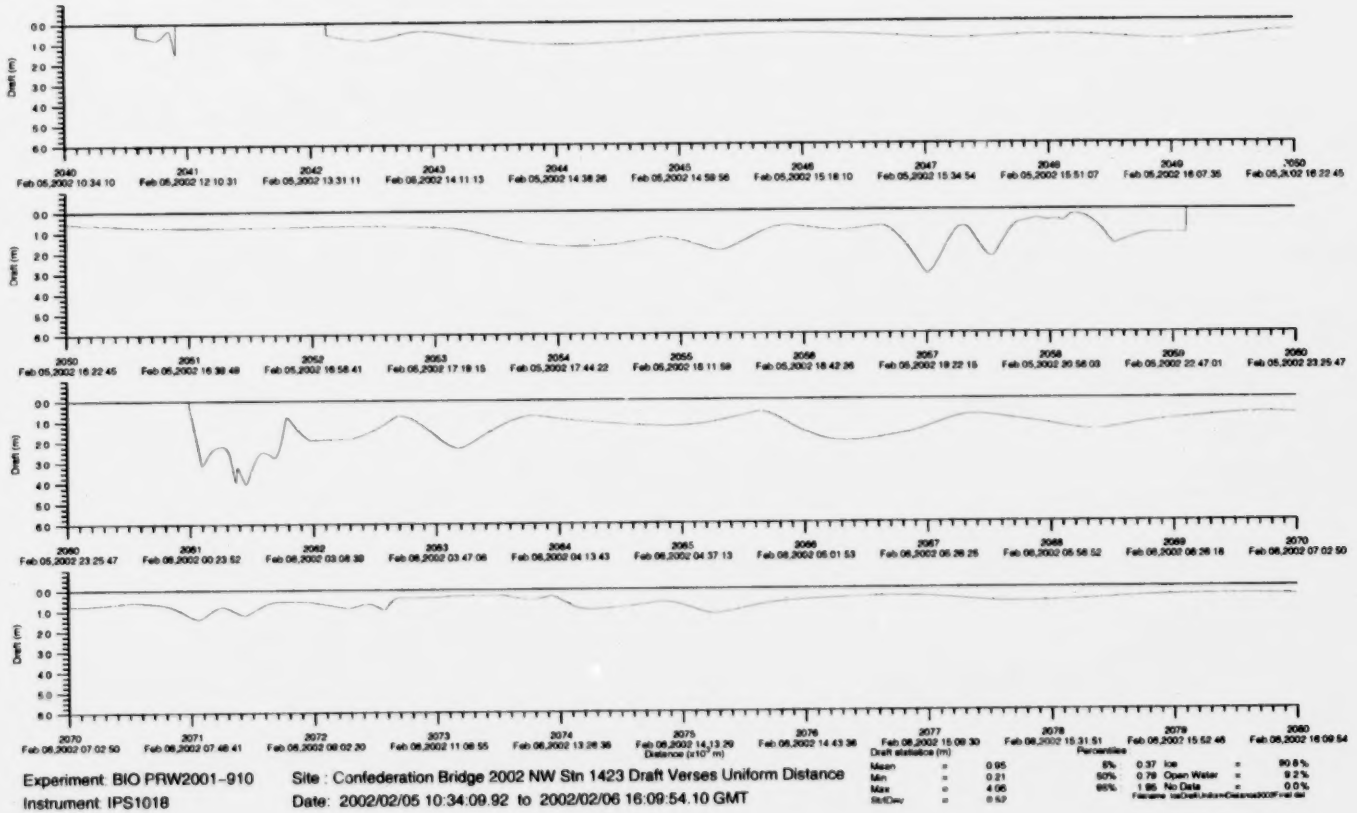

Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/02 12:29:14.16 to 2002/02/03 02:38:37.83 GMT

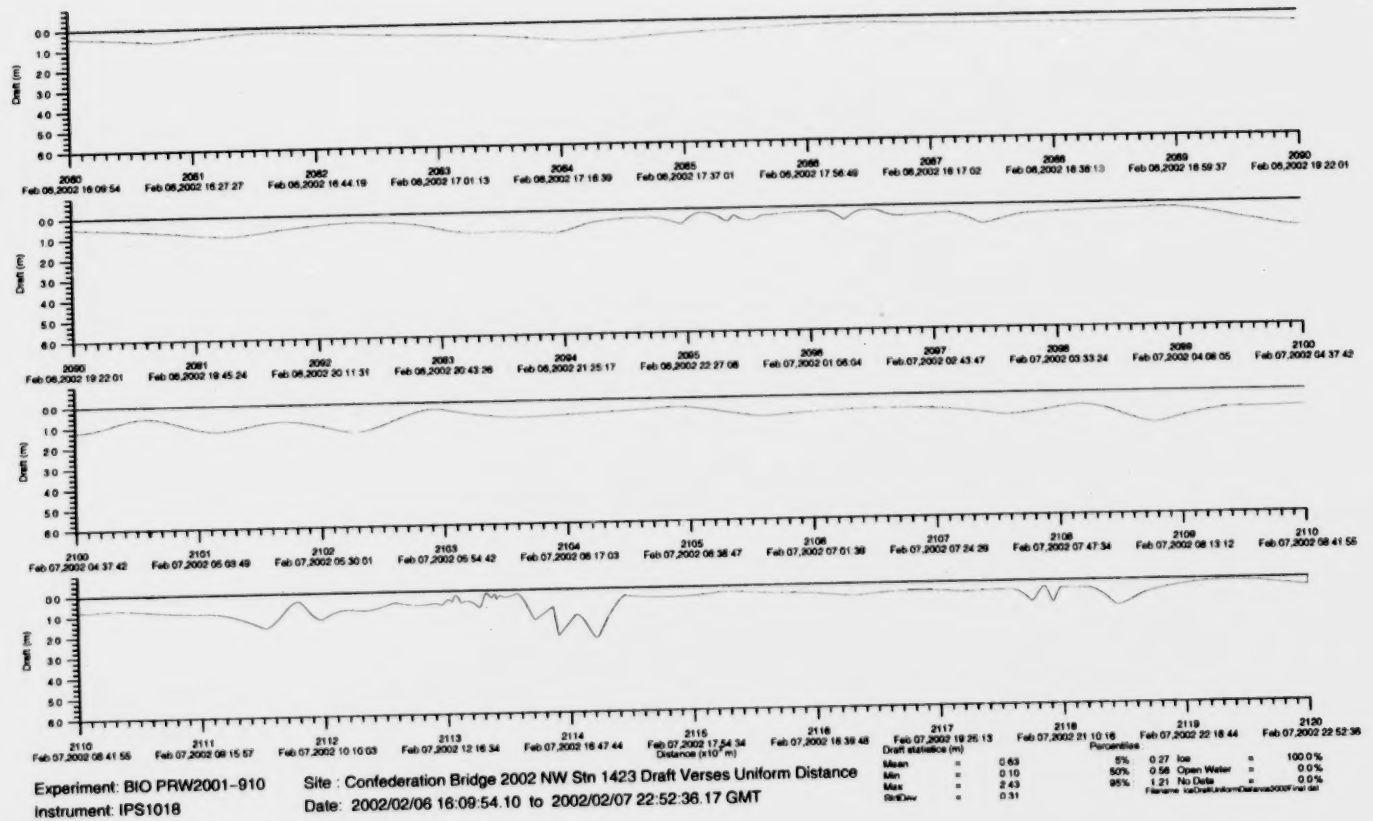


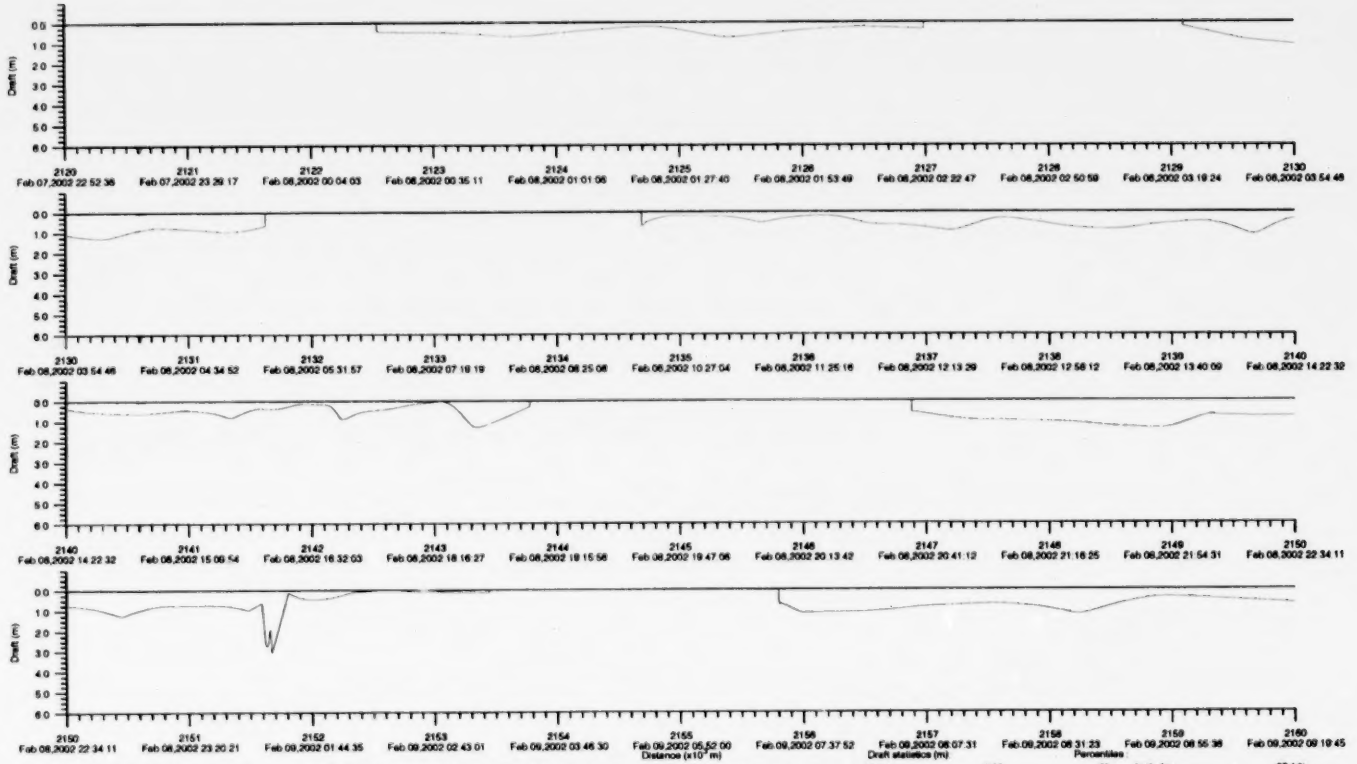
Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/03 02:38:37.83 to 2002/02/04 02:28:39.82 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2000 Feb 04,2002 02:28:40
2001 Feb 04,2002 03:11:16
2002 Feb 04,2002 03:39:32
2003 Feb 04,2002 04:09:52
2004 Feb 04,2002 04:54:11
2005 Feb 04,2002 07:12:32
2006 Feb 04,2002 07:53:53
2007 Feb 04,2002 08:25:31
2008 Feb 04,2002 08:52:47
2009 Feb 04,2002 09:17:15
2010 Feb 04,2002 09:40:14
2010 Feb 04,2002 09:40:14
2011 Feb 04,2002 10:03:12
2012 Feb 04,2002 10:27:41
2013 Feb 04,2002 10:53:39
2014 Feb 04,2002 11:23:54
2015 Feb 04,2002 12:07:19
2016 Feb 04,2002 13:48:48
2017 Feb 04,2002 14:47:37
2018 Feb 04,2002 15:17:09
2019 Feb 04,2002 15:45:19
2020 Feb 04,2002 16:14:27
2020 Feb 04,2002 16:14:27
2021 Feb 04,2002 16:53:13
2022 Feb 04,2002 17:52:55
2023 Feb 04,2002 20:07:15
2024 Feb 04,2002 20:45:01
2025 Feb 04,2002 21:14:49
2026 Feb 04,2002 21:40:21
2027 Feb 04,2002 22:03:48
2028 Feb 04,2002 22:26:38
2029 Feb 04,2002 22:49:15
2030 Feb 04,2002 23:12:40
2030 Feb 04,2002 23:12:40
2031 Feb 04,2002 23:38:57
2032 Feb 05,2002 00:08:48
2033 Feb 05,2002 01:02:45
2034 Feb 05,2002 02:48:41
2035 Feb 05,2002 03:39:41
Distance (x10^3 m)
2036 Feb 05,2002 04:15:03
2037 Feb 05,2002 04:53:04
2038 Feb 05,2002 05:50:51
2039 Feb 05,2002 08:25:41
2040 Feb 05,2002 10:34:10
Draft statistics (m)
Mean = 0.47
Min = 0.07
Max = 1.44
Percentiles
5% 0.17
50% 0.44
95% 0.80
Ice = 88.9%
Open Water = 11.1%
No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/04 02:28:39.82 to 2002/02/05 10:34:09.92 GMT

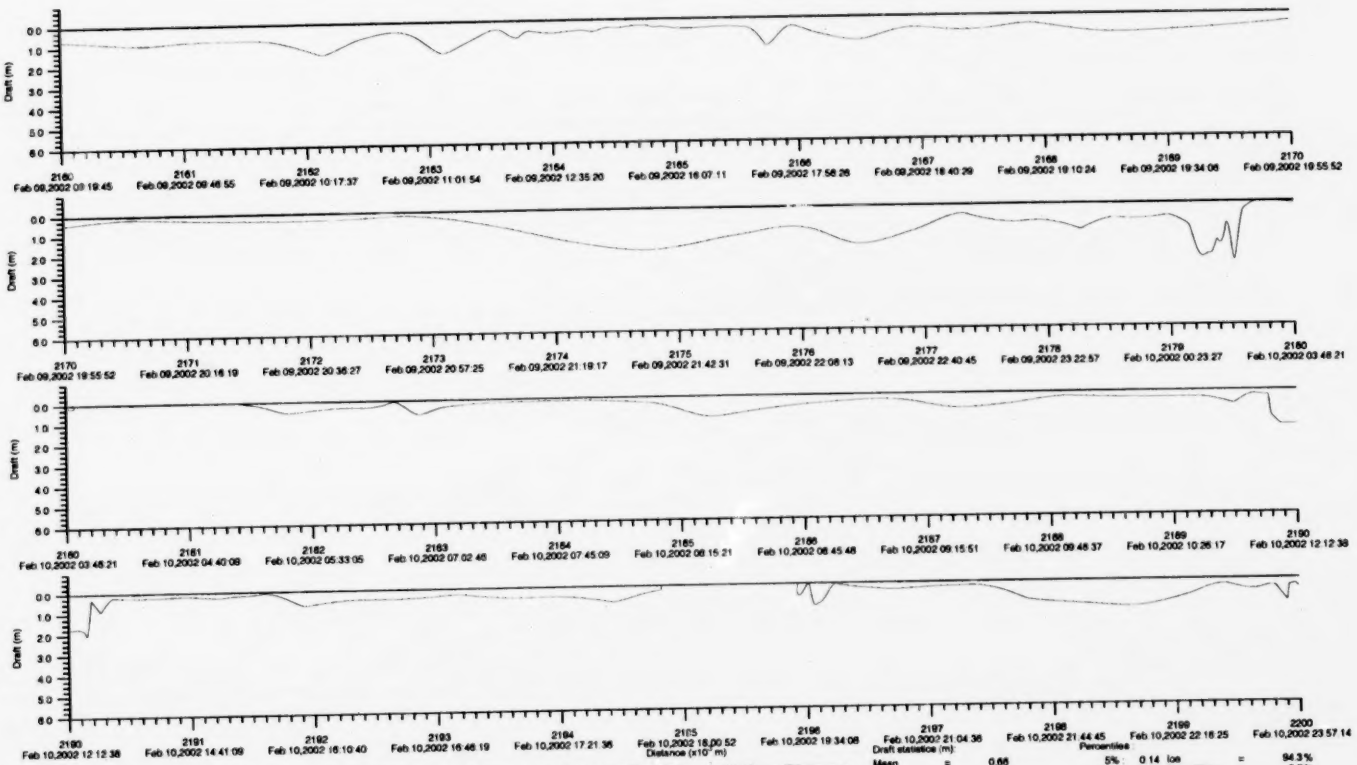

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2040 Feb 05,2002 10:34:10
2041 Feb 05,2002 12:10:31
2042 Feb 05,2002 13:31:11
2043 Feb 05,2002 14:11:13
2044 Feb 05,2002 14:38:26
2045 Feb 05,2002 14:59:56
2046 Feb 05,2002 15:18:10
2047 Feb 05,2002 15:34:54
2048 Feb 05,2002 15:51:07
2049 Feb 05,2002 16:07:35
2050 Feb 05,2002 16:22:45
2050 Feb 05,2002 16:22:45
2051 Feb 05,2002 16:39:49
2052 Feb 05,2002 16:58:41
2053 Feb 05,2002 17:19:15
2054 Feb 05,2002 17:44:22
2055 Feb 05,2002 18:11:59
2056 Feb 05,2002 18:42:26
2057 Feb 05,2002 19:22:15
2058 Feb 05,2002 20:56:03
2059 Feb 05,2002 22:47:01
2060 Feb 05,2002 23:25:47
2060 Feb 05,2002 23:25:47
2061 Feb 06,2002 00:23:52
2062 Feb 06,2002 03:08:39
2063 Feb 06,2002 03:47:06
2064 Feb 06,2002 04:13:43
2065 Feb 06,2002 04:37:13
2066 Feb 06,2002 05:01:53
2067 Feb 06,2002 05:26:25
2068 Feb 06,2002 05:56:52
2069 Feb 06,2002 06:26:18
2070 Feb 06,2002 07:02:50
2070 Feb 06,2002 07:02:50
2071 Feb 06,2002 07:48:41
2072 Feb 06,2002 08:02:20
2073 Feb 06,2002 11:08:55
2074 Feb 06,2002 13:26:36
2075 Feb 06,2002 14:13:29
Distance (x10³ m)
2076 Feb 06,2002 14:43:36
2077 Feb 06,2002 15:09:30
2078 Feb 06,2002 15:31:51
2079 Feb 06,2002 15:52:46
2080 Feb 06,2002 16:09:54
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/05 10:34:09.92 to 2002/02/06 16:09:54.10 GMT
Draft statistics (m)
Mean = 0.95
Min = 0.21
Max = 4.06
StdDev = 0.52
Percentiles
5% 0.37 Ice = 90.8%
50% 0.79 Open Water = 9.2%
95% 1.85 No Data = 0.0%

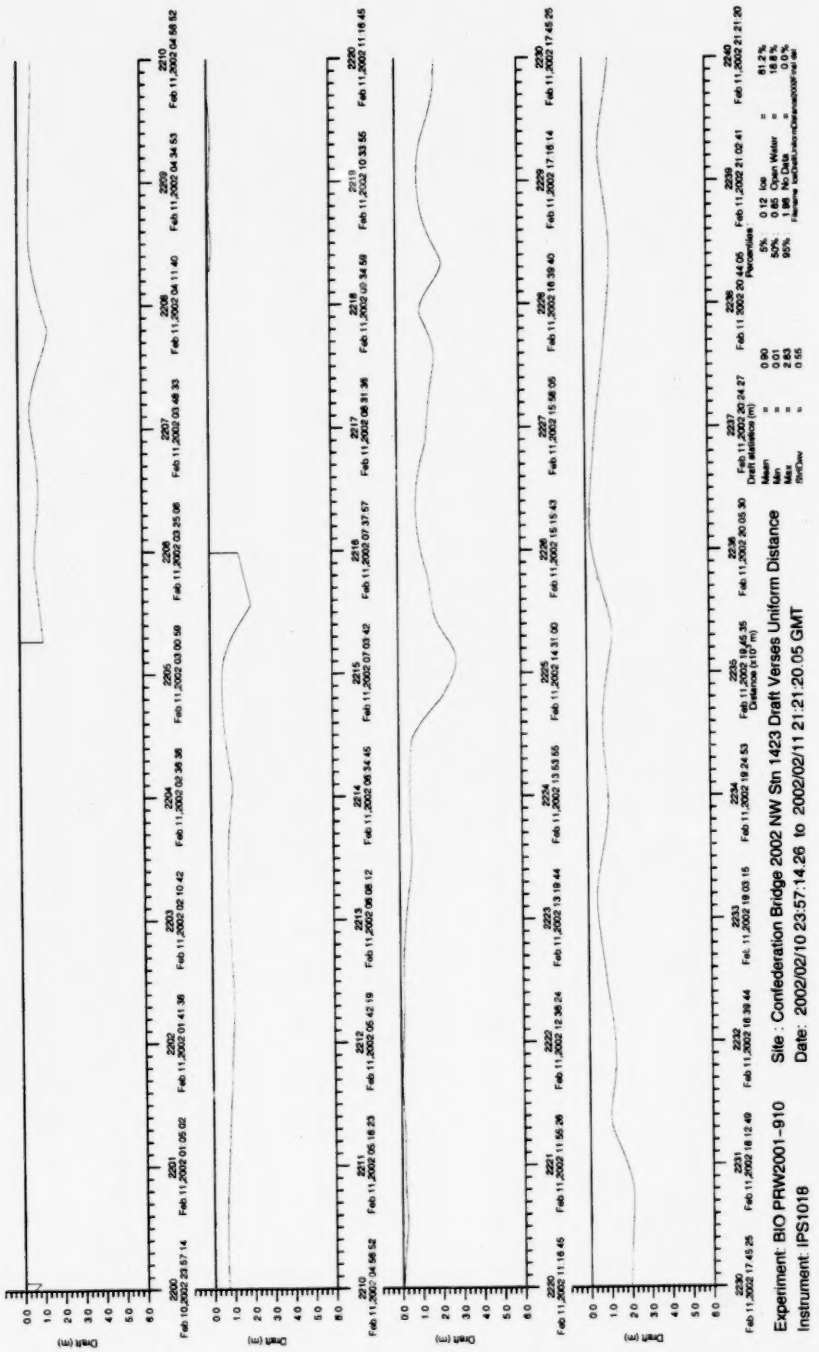

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2060 Feb 06,2002 16:09:54
2061 Feb 06,2002 16:27:27
2062 Feb 06,2002 16:44:19
2063 Feb 06,2002 17:01:13
2064 Feb 06,2002 17:18:39
2065 Feb 06,2002 17:37:01
2066 Feb 06,2002 17:56:49
2067 Feb 06,2002 18:17:02
2068 Feb 06,2002 18:38:13
2069 Feb 06,2002 18:59:37
2090 Feb 06,2002 19:22:01
2090 Feb 06,2002 19:22:01
2091 Feb 06,2002 19:45:24
2092 Feb 06,2002 20:11:31
2093 Feb 06,2002 20:43:26
2094 Feb 06,2002 21:25:17
2095 Feb 06,2002 22:27:08
2096 Feb 07,2002 01:06:04
2097 Feb 07,2002 02:43:47
2098 Feb 07,2002 03:33:24
2099 Feb 07,2002 04:08:05
2100 Feb 07,2002 04:37:42
2100 Feb 07,2002 04:37:42
2101 Feb 07,2002 05:03:49
2102 Feb 07,2002 05:30:01
2103 Feb 07,2002 05:54:42
2104 Feb 07,2002 06:17:03
2105 Feb 07,2002 06:36:47
2106 Feb 07,2002 07:01:39
2107 Feb 07,2002 07:24:29
2108 Feb 07,2002 07:47:54
2109 Feb 07,2002 08:13:12
2110 Feb 07,2002 08:41:55
2110 Feb 07,2002 08:41:55
2111 Feb 07,2002 09:15:57
2112 Feb 07,2002 10:10:03
2113 Feb 07,2002 12:16:34
2114 Feb 07,2002 16:47:44
2115 Feb 07,2002 17:54:34
Distance (x10^4 m)
2116 Feb 07,2002 18:39:48
2117 Feb 07,2002 19:25:13
2118 Feb 07,2002 21:10:16
2119 Feb 07,2002 22:18:44
2120 Feb 07,2002 22:52:36
Draft statistics (m)
Mean = 0.63
Min = 0.10
Max = 2.43
StdDev = 0.31
Percentiles
5% 0.27 Ice = 100.0%
50% 0.56 Open Water = 0.0%
95% 1.21 No Data = 0.0%
Filename \ca\Draft\Uniform\Distance\2002\Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/06 16:09:54.10 to 2002/02/07 22:52:36.17 GMT

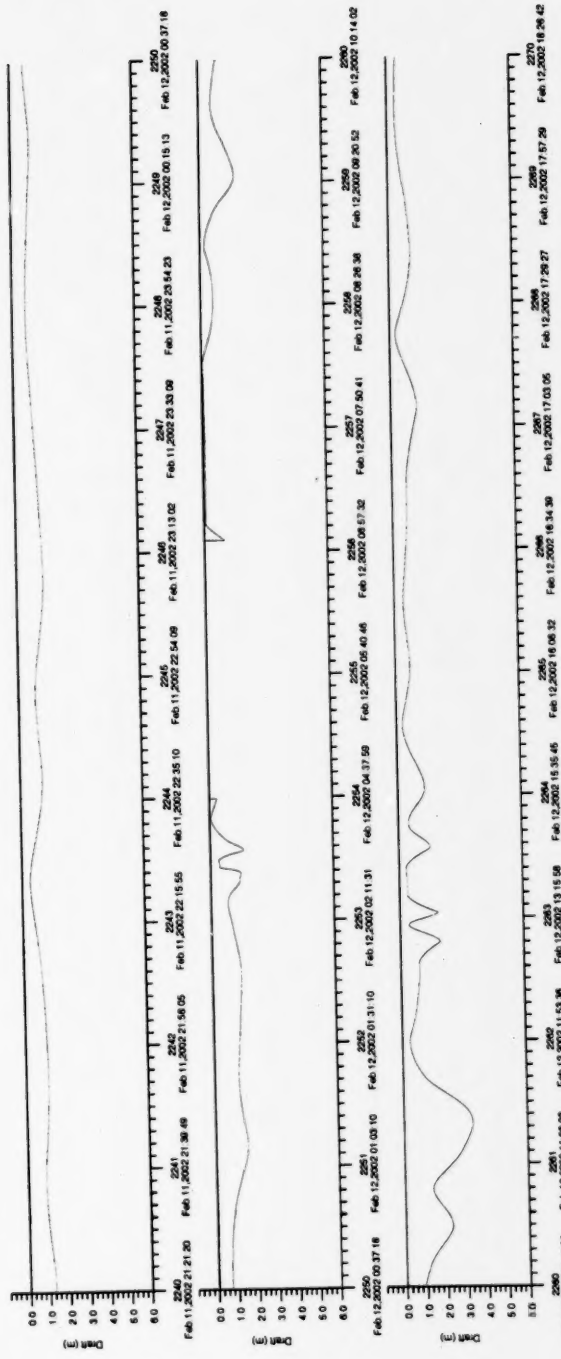


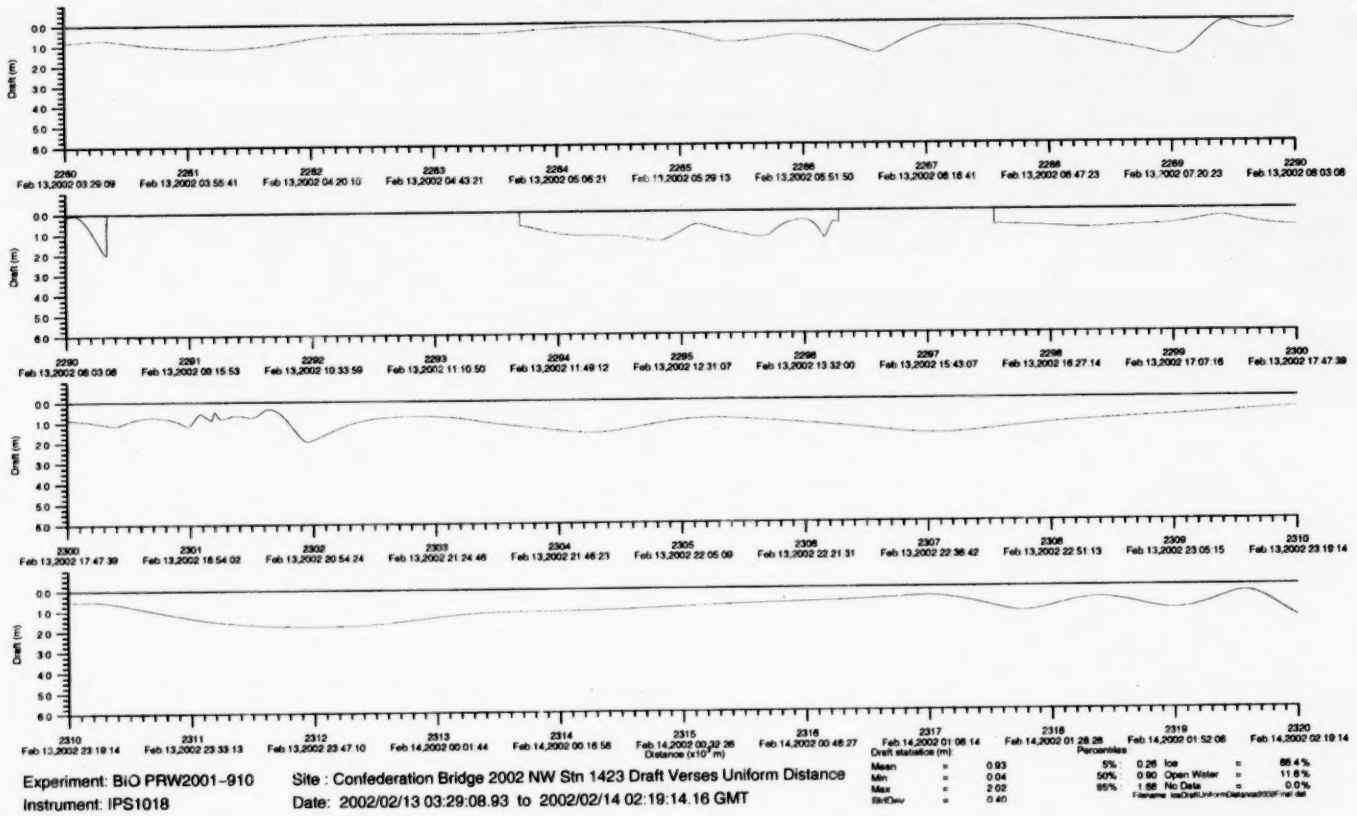
Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/07 22:52:36.17 to 2002/02/09 09:19:44.84 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2160 Feb 09,2002 09:19:45
2161 Feb 09,2002 09:46:55
2162 Feb 09,2002 10:17:37
2163 Feb 09,2002 11:01:54
2164 Feb 09,2002 12:35:20
2165 Feb 09,2002 16:07:11
2166 Feb 09,2002 17:58:26
2167 Feb 09,2002 18:40:29
2168 Feb 09,2002 19:10:24
2169 Feb 09,2002 19:34:06
2170 Feb 09,2002 19:55:52
2170 Feb 09,2002 19:55:52
2171 Feb 09,2002 20:16:19
2172 Feb 09,2002 20:36:27
2173 Feb 09,2002 20:57:25
2174 Feb 09,2002 21:19:17
2175 Feb 09,2002 21:42:31
2176 Feb 09,2002 22:08:13
2177 Feb 09,2002 22:40:45
2178 Feb 09,2002 23:22:57
2179 Feb 10,2002 00:23:27
2180 Feb 10,2002 03:46:21
2160 Feb 10,2002 03:46:21
2161 Feb 10,2002 04:40:09
2162 Feb 10,2002 05:33:05
2163 Feb 10,2002 07:02:46
2164 Feb 10,2002 07:45:09
2165 Feb 10,2002 08:15:21
2166 Feb 10,2002 08:45:48
2167 Feb 10,2002 09:15:51
2168 Feb 10,2002 09:48:37
2189 Feb 10,2002 10:26:17
2190 Feb 10,2002 12:12:38
2190 Feb 10,2002 12:12:38
2191 Feb 10,2002 14:41:09
2192 Feb 10,2002 16:10:40
2193 Feb 10,2002 16:46:19
2194 Feb 10,2002 17:21:36
2195 Feb 10,2002 18:00:52
Distance (x10^3 m)
2196 Feb 10,2002 19:34:08
2197 Feb 10,2002 21:04:36
2198 Feb 10,2002 21:44:45
2199 Feb 10,2002 22:16:25
2200 Feb 10,2002 23:57:14
Draft statistics (m):
Mean = 0.65
Min = -0.00
Max = 2.87
StdDev = 0.48
Percentiles
5% : 0.14 Ice = 94.3%
50% : 0.53 Open Water = 5.7%
95% : 1.70 No Data = 0.0%
Filename: IceDraftUniformDistance2002Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/09 09:19:44.84 to 2002/02/10 23:57:14.26 GMT

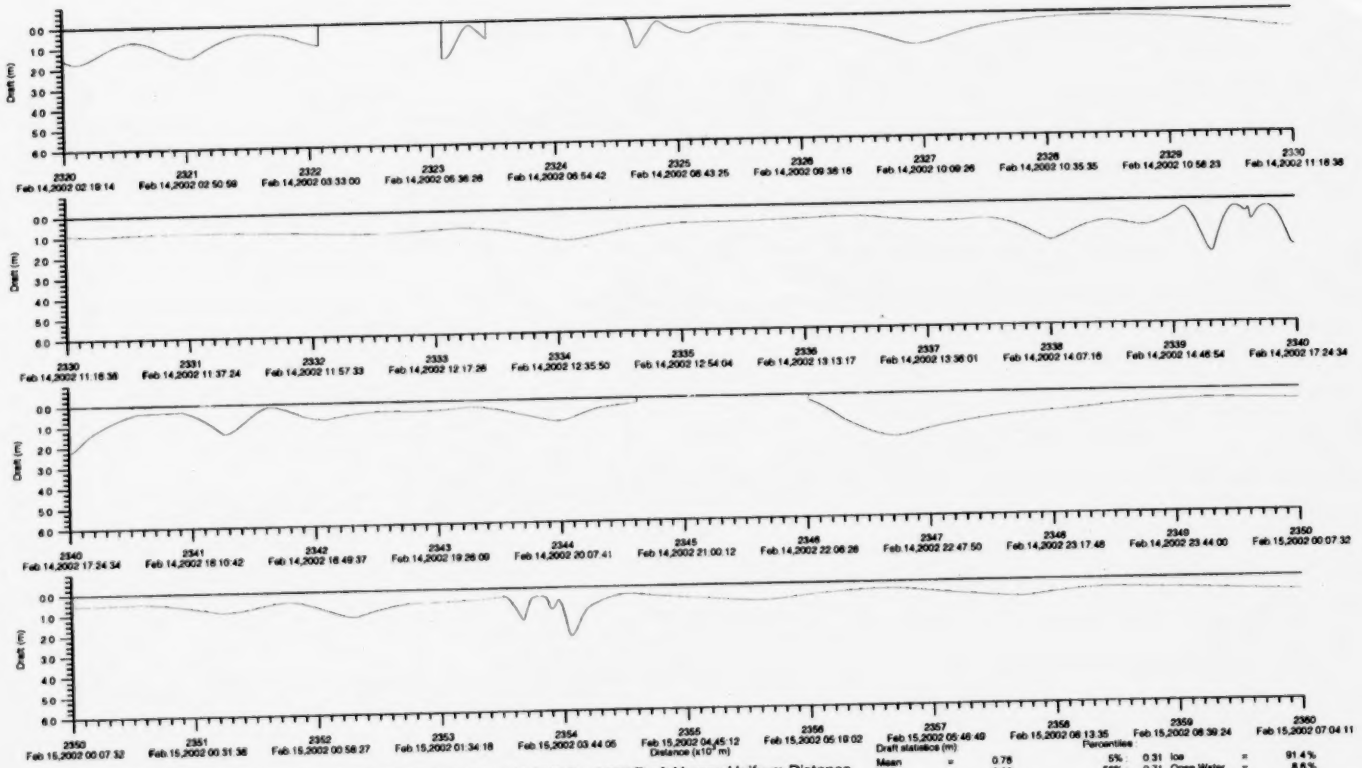

Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/10 23:57:14.26 to 2002/02/11 21:21:20.05 GMT
Draft (m)


Draft (m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/11 21:21:20.05 to 2002/02/13 03:29:08.93 GMT



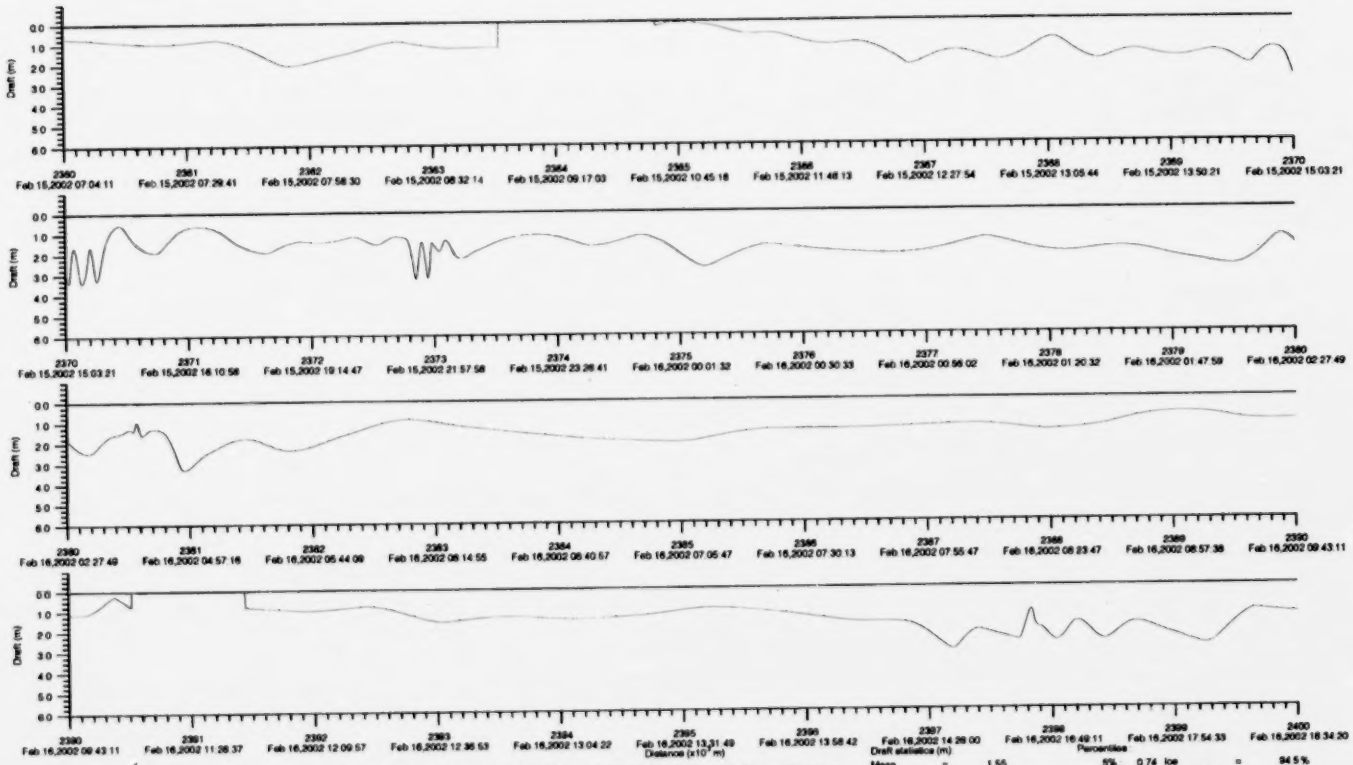
Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/13 03:29:08.93 to 2002/02/14 02:19:14.16 GMT



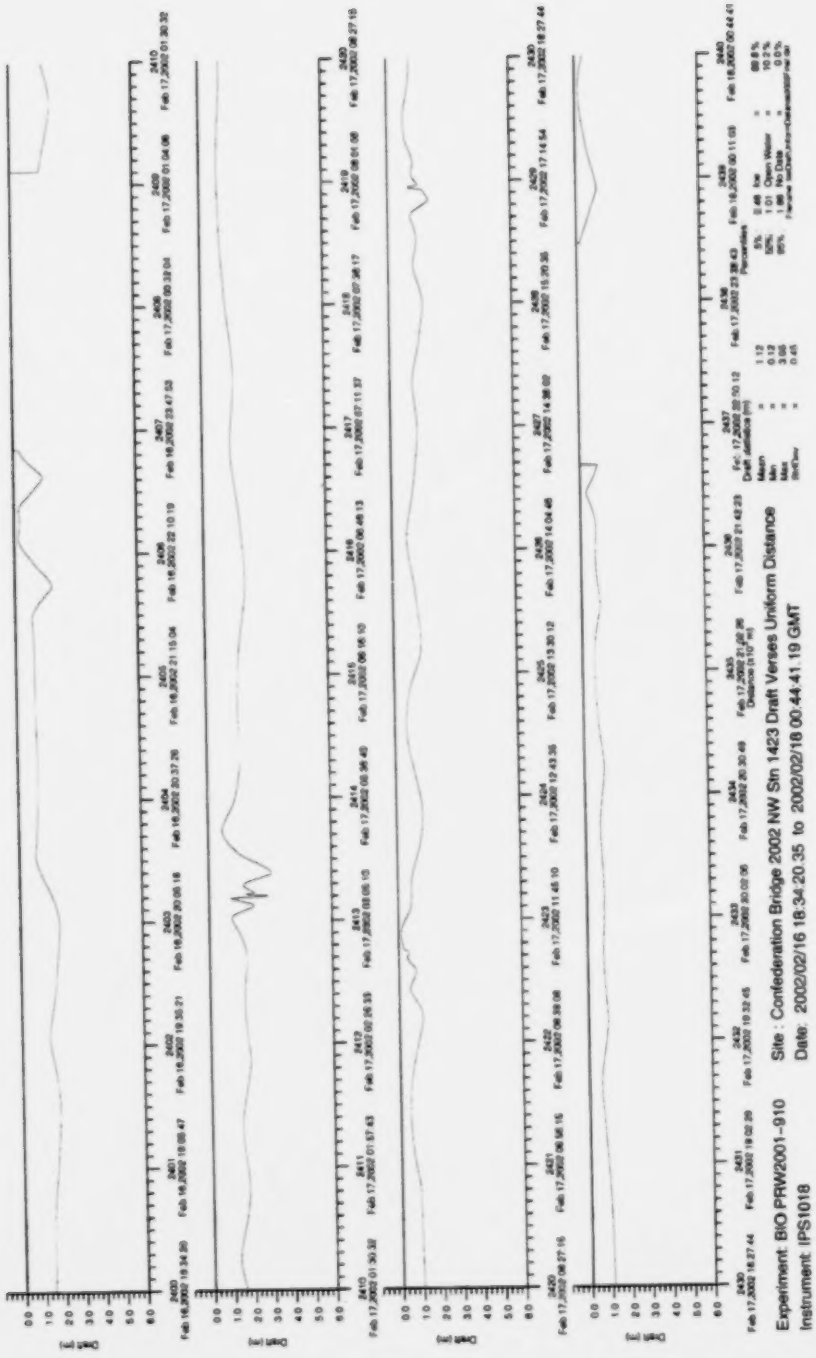
Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/14 02:19:14.16 to 2002/02/15 07:04:11.08 GMT

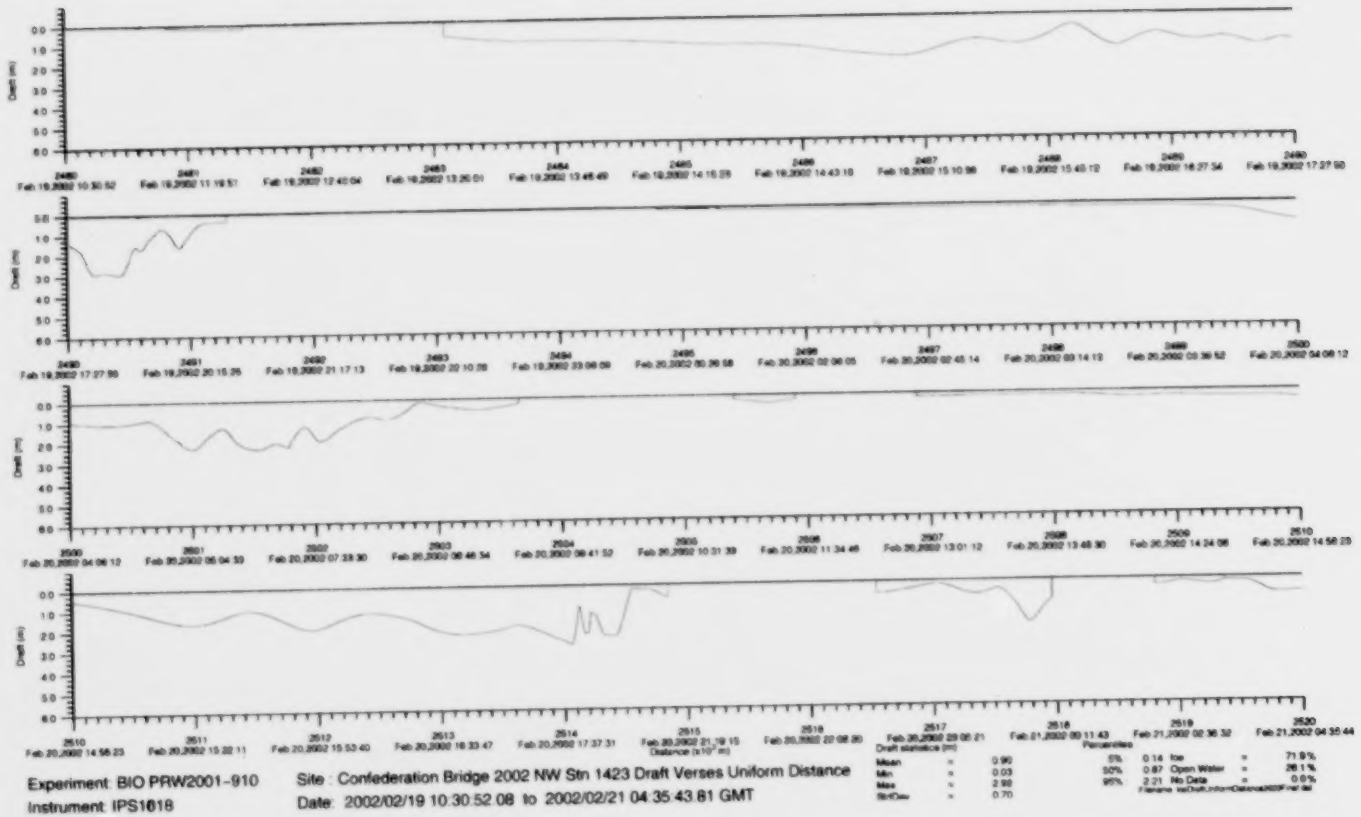


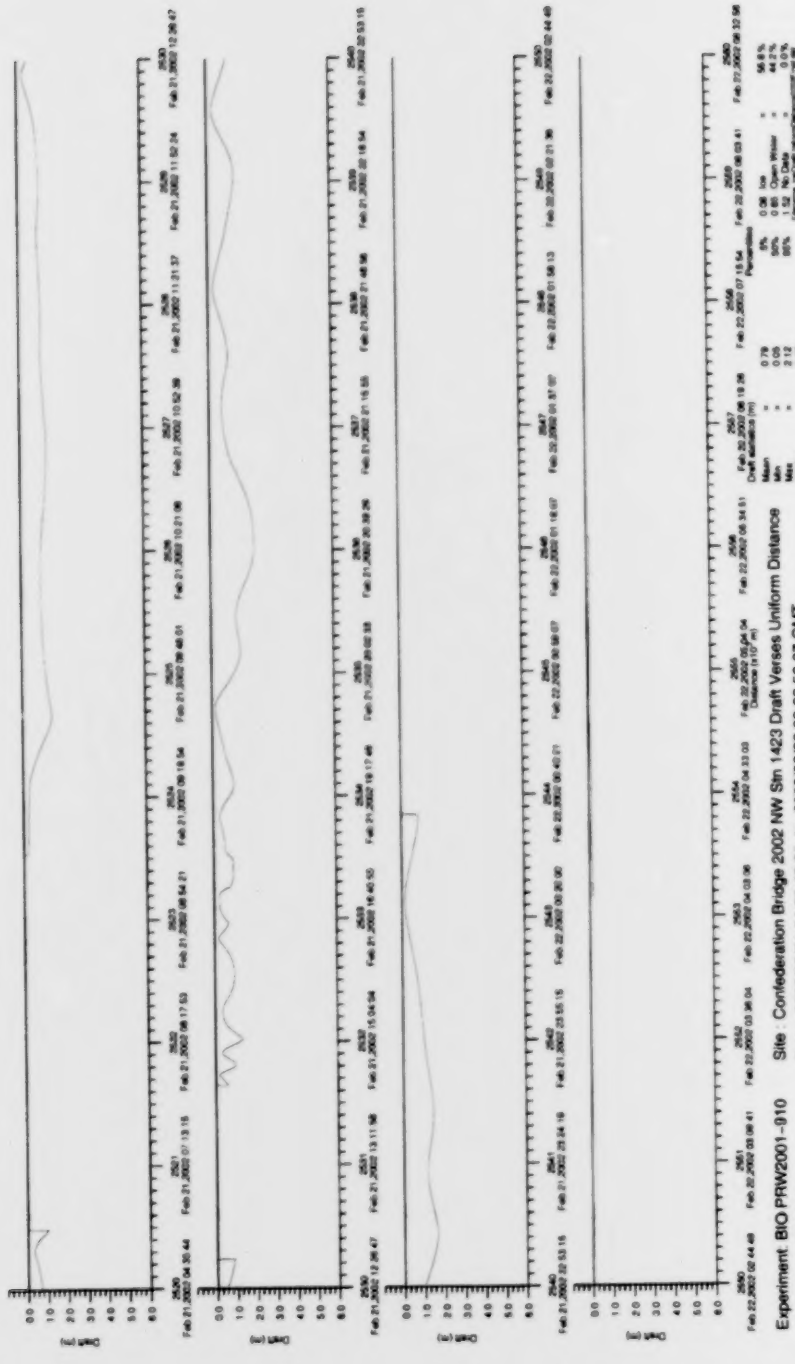
Experiment: BIO PRW2001-910
Instrument: IPS1018

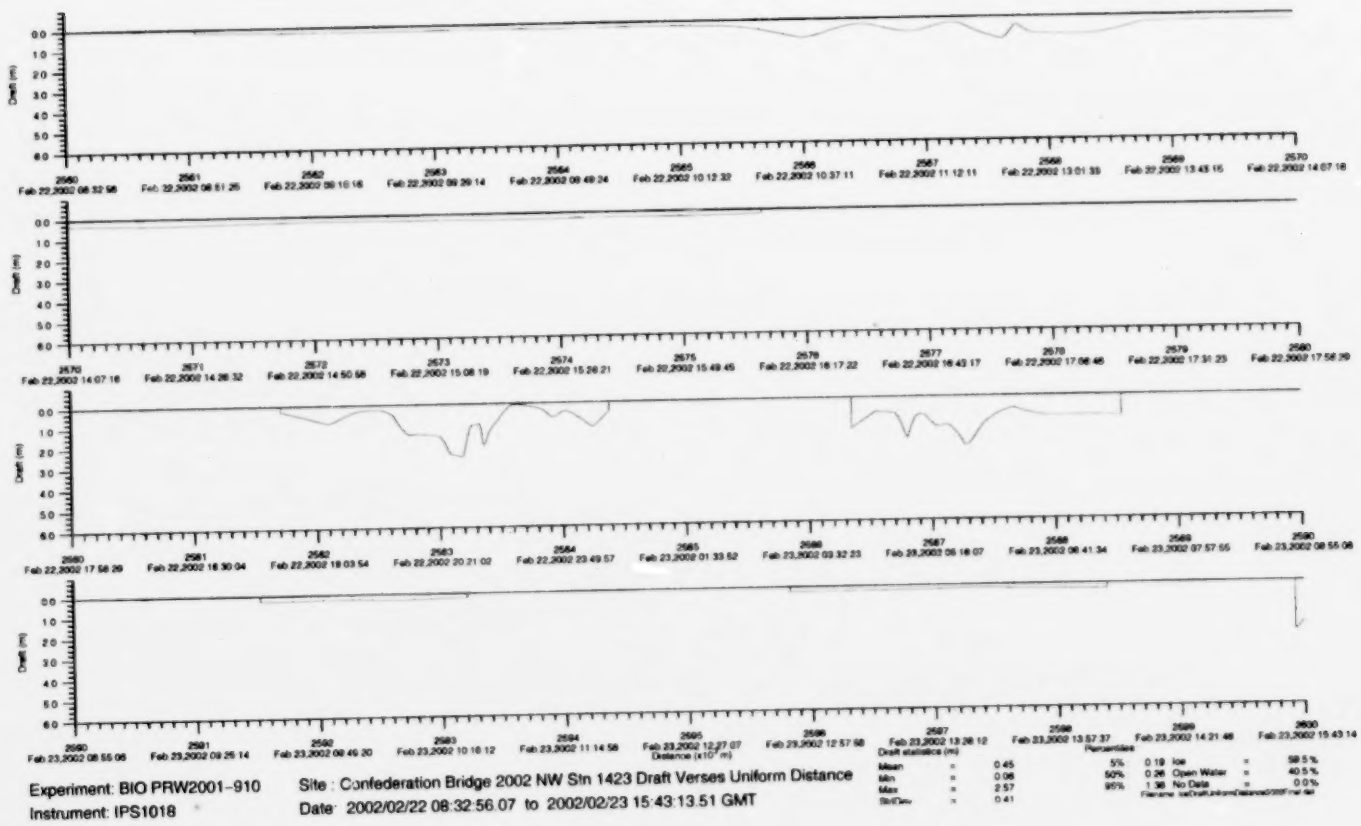
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/15 07:04:11.08 to 2002/02/16 18:34:20.35 GMT


Experiment: BIO FRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/16 18:34:20.35 to 2002/02/18 00:44:41.19 GMT

Draft (m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/18 00:44:41.19 to 2002/02/19 10:30:52.08 GMT

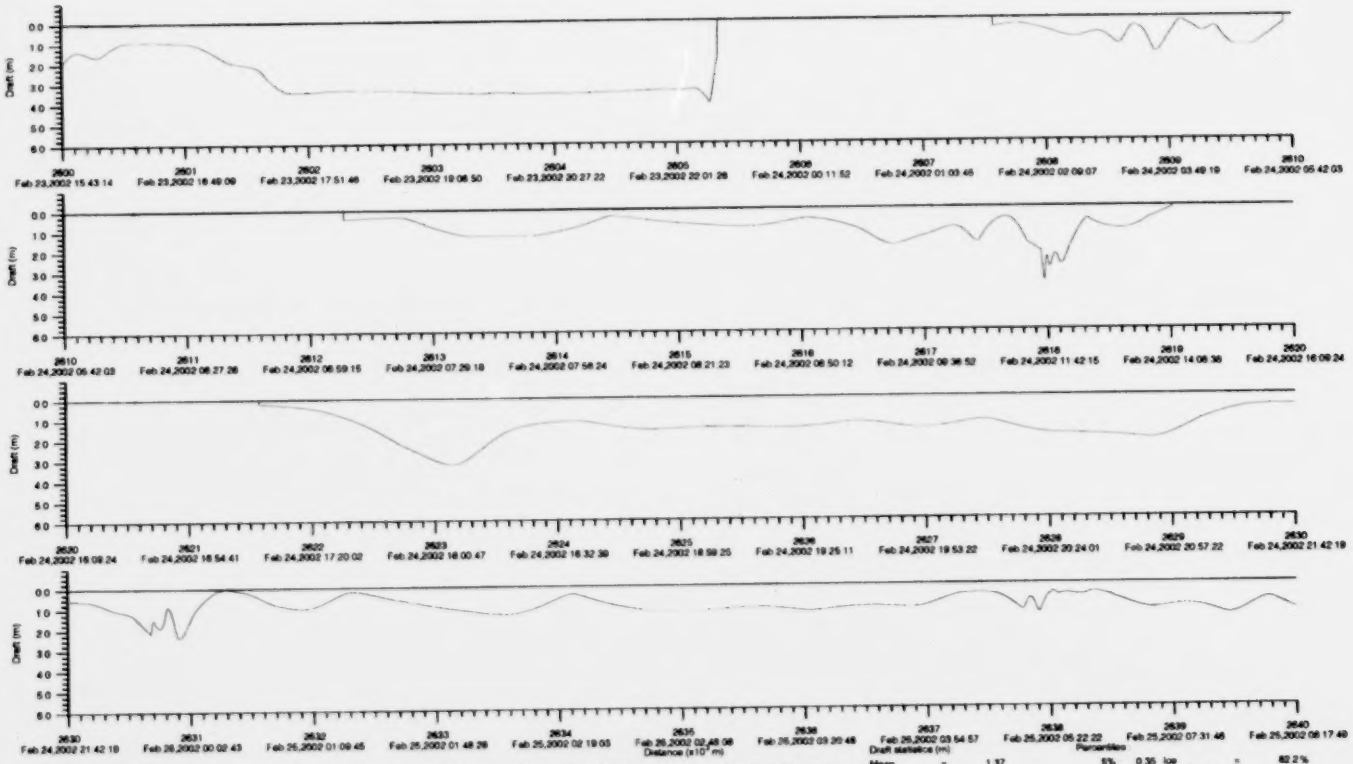

Draft (m)
Distance (x10⁷ m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/19 10:30:52.08 to 2002/02/21 04:35:43.81 GMT

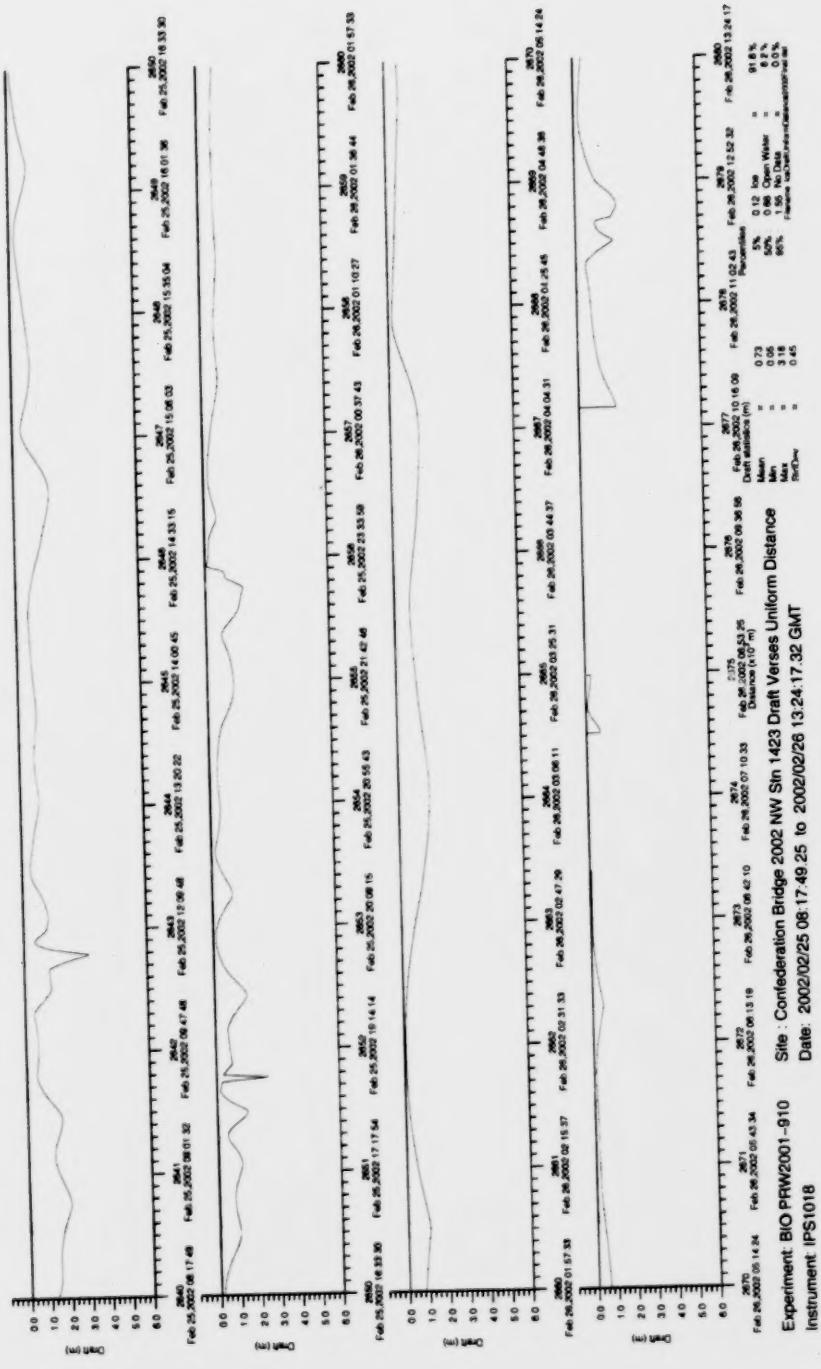

Experiment: BIO PRW2001--910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/21 04:35:43.81 to 2002/02/22 08:32:56.07 GMT

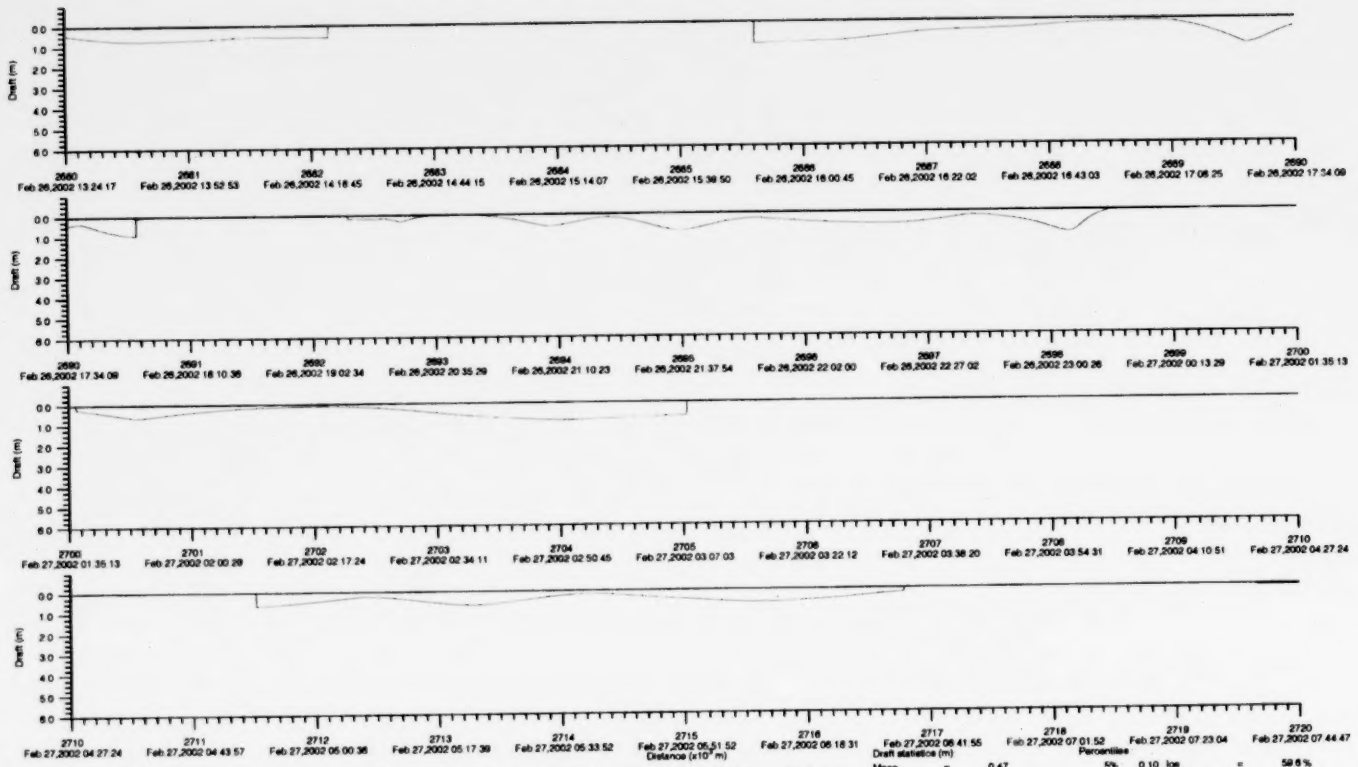


Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/22 08:32:56.07 to 2002/02/23 15:43:13.51 GMT

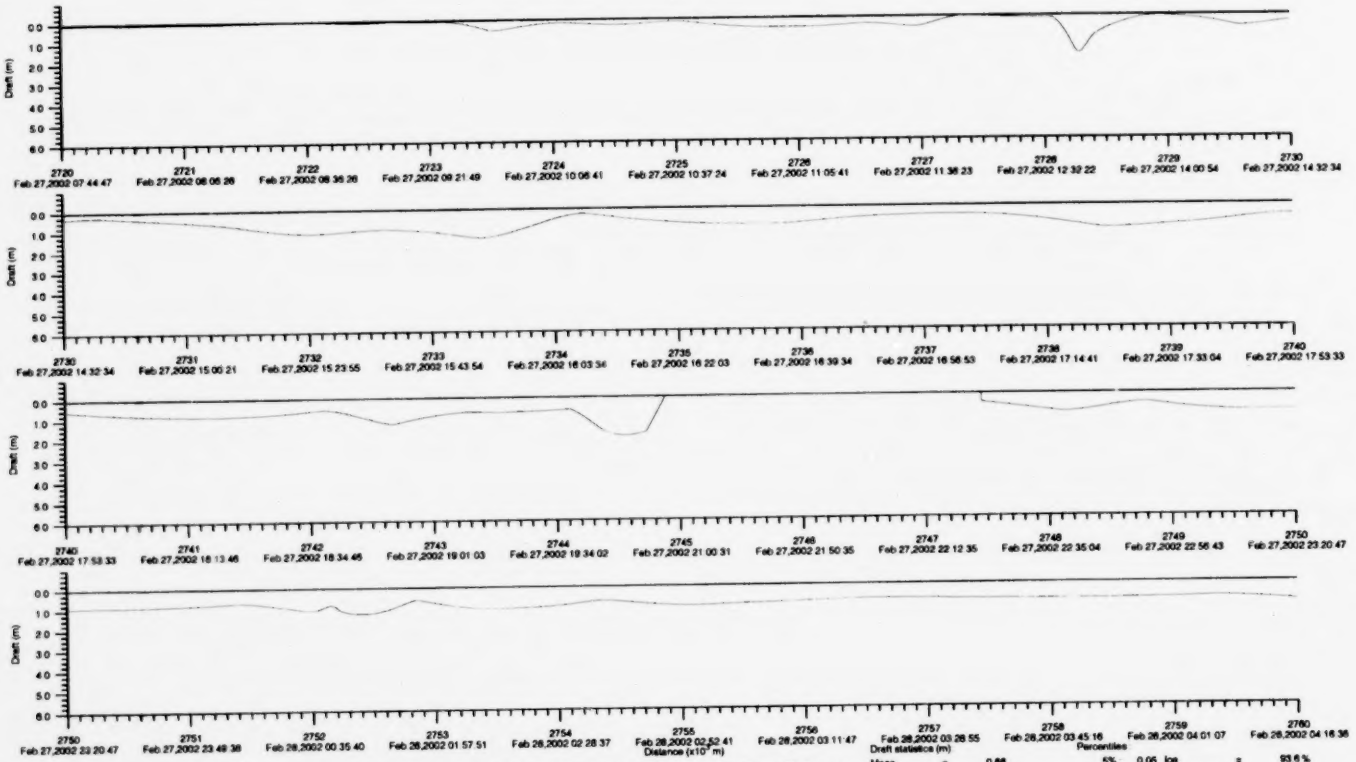

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2600 Feb 23,2002 15:43:14
2601 Feb 23,2002 16:49:09
2602 Feb 23,2002 17:51:46
2603 Feb 23,2002 19:06:50
2604 Feb 23,2002 20:27:22
2605 Feb 23,2002 22:01:28
2609 Feb 24,2002 00:11:52
2607 Feb 24,2002 01:03:45
2608 Feb 24,2002 02:09:07
2609 Feb 24,2002 03:49:19
2610 Feb 24,2002 05:42:03
2610 Feb 24,2002 05:42:03
2611 Feb 24,2002 06:27:26
2612 Feb 24,2002 06:59:15
2613 Feb 24,2002 07:29:18
2614 Feb 24,2002 07:58:24
2615 Feb 24,2002 08:21:23
2616 Feb 24,2002 08:50:12
2617 Feb 24,2002 09:36:52
2618 Feb 24,2002 11:42:15
2619 Feb 24,2002 14:08:36
2620 Feb 24,2002 16:09:24
2620 Feb 24,2002 16:09:24
2621 Feb 24,2002 16:54:41
2622 Feb 24,2002 17:20:02
2623 Feb 24,2002 18:00:47
2624 Feb 24,2002 18:32:39
2625 Feb 24,2002 18:59:25
2626 Feb 24,2002 19:25:11
2627 Feb 24,2002 19:53:22
2628 Feb 24,2002 20:24:01
2629 Feb 24,2002 20:57:22
2630 Feb 24,2002 21:42:19
2630 Feb 24,2002 21:42:19
2631 Feb 26,2002 00:02:43
2632 Feb 25,2002 01:09:45
2633 Feb 25,2002 01:48:29
2634 Feb 25,2002 02:19:05
2635 Feb 26,2002 02:48:08
2636 Feb 26,2002 03:20:48
2637 Feb 26,2002 03:54:57
2638 Feb 25,2002 05:22:22
2639 Feb 25,2002 07:31:46
2640 Feb 25,2002 08:17:49
Distance (x10^3 m)
Draft statistics (m)
Mean = 1.37
Min = 0.03
Max = 4.04
StdDev = 0.90
Percentiles
5% 0.35 Ice = 82.2%
50% 1.17 Open Water = 17.8%
95% 3.48 No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/23 15:43:13.51 to 2002/02/25 08:17:49.25 GMT

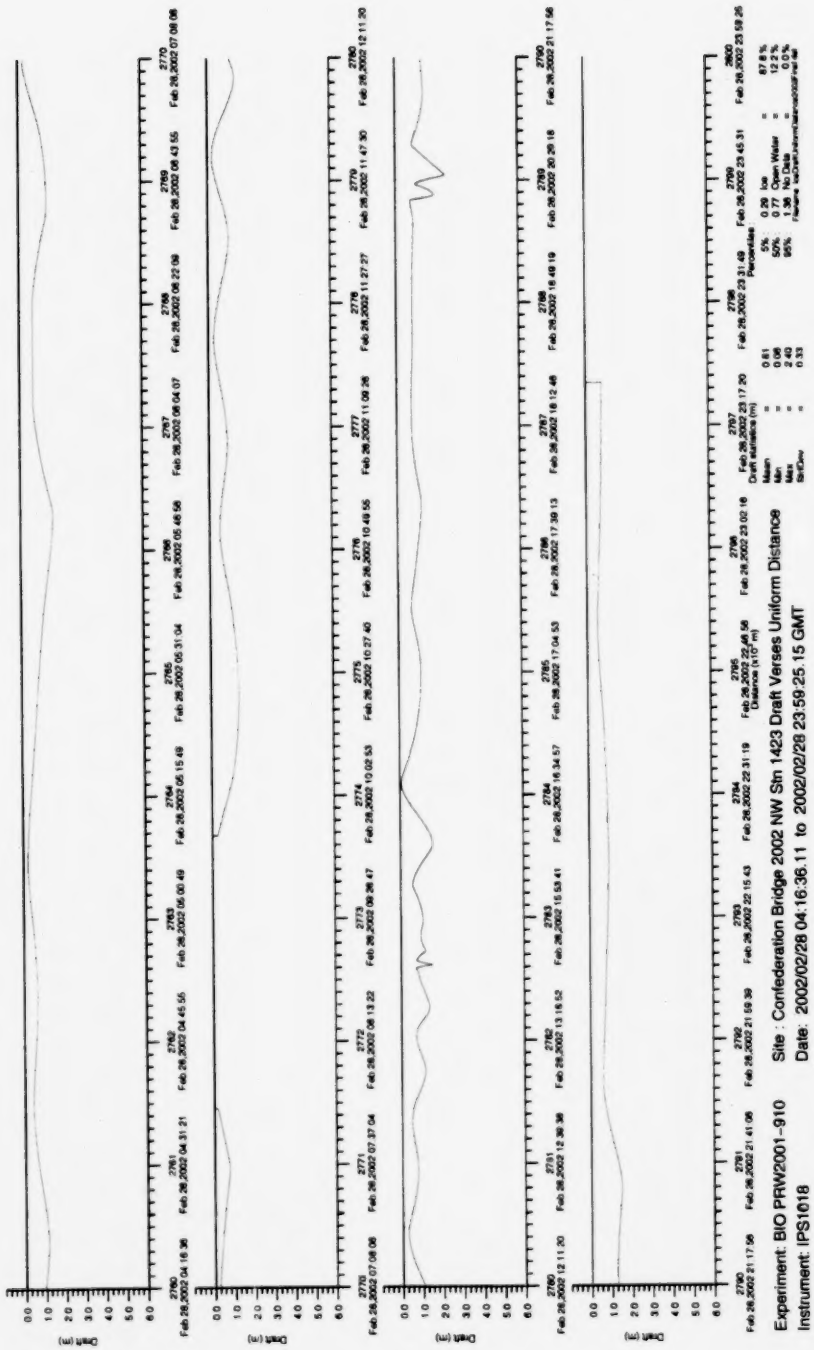

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Experiment: BIO PRW2001-910
Instrument: IPS1018
Date: 2002/02/25 08:17:49.25 to 2002/02/26 13:24:17.32 GMT

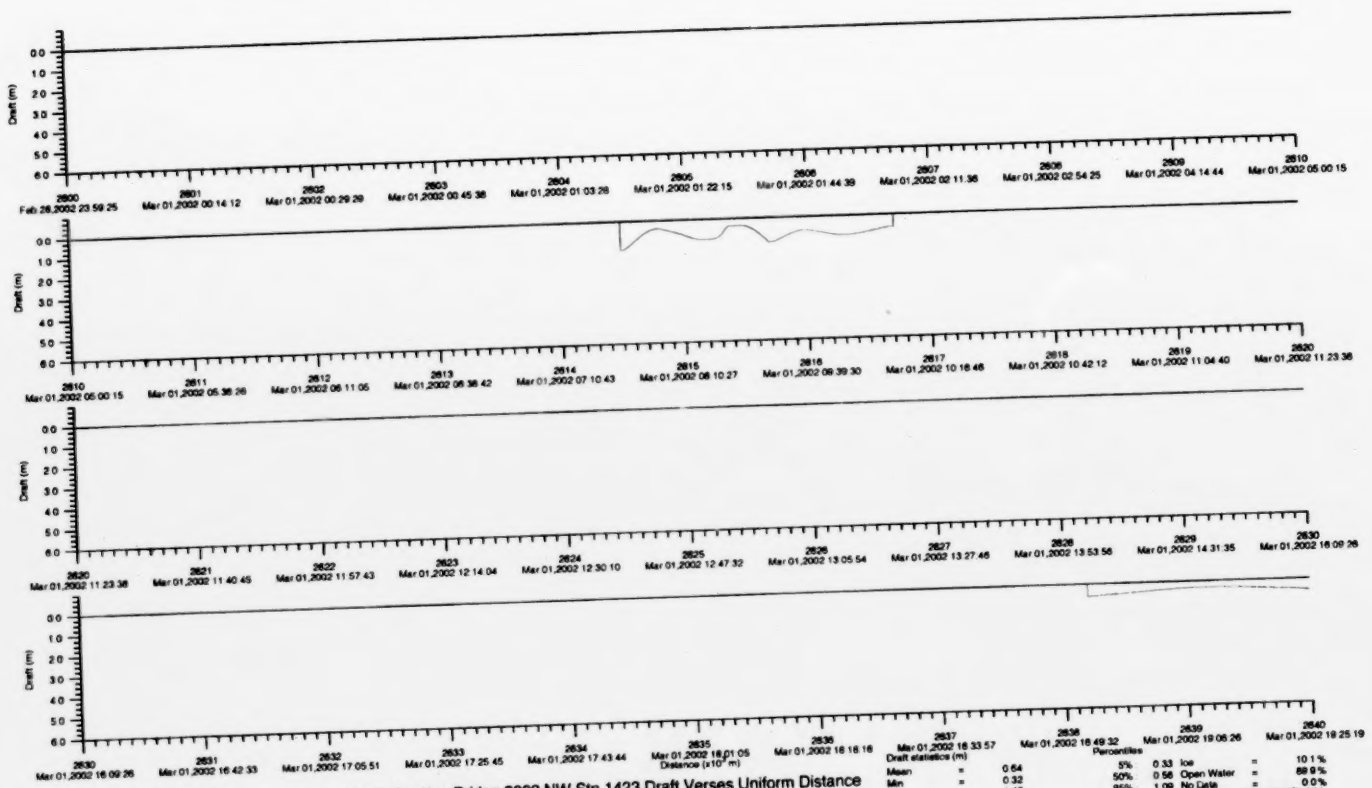


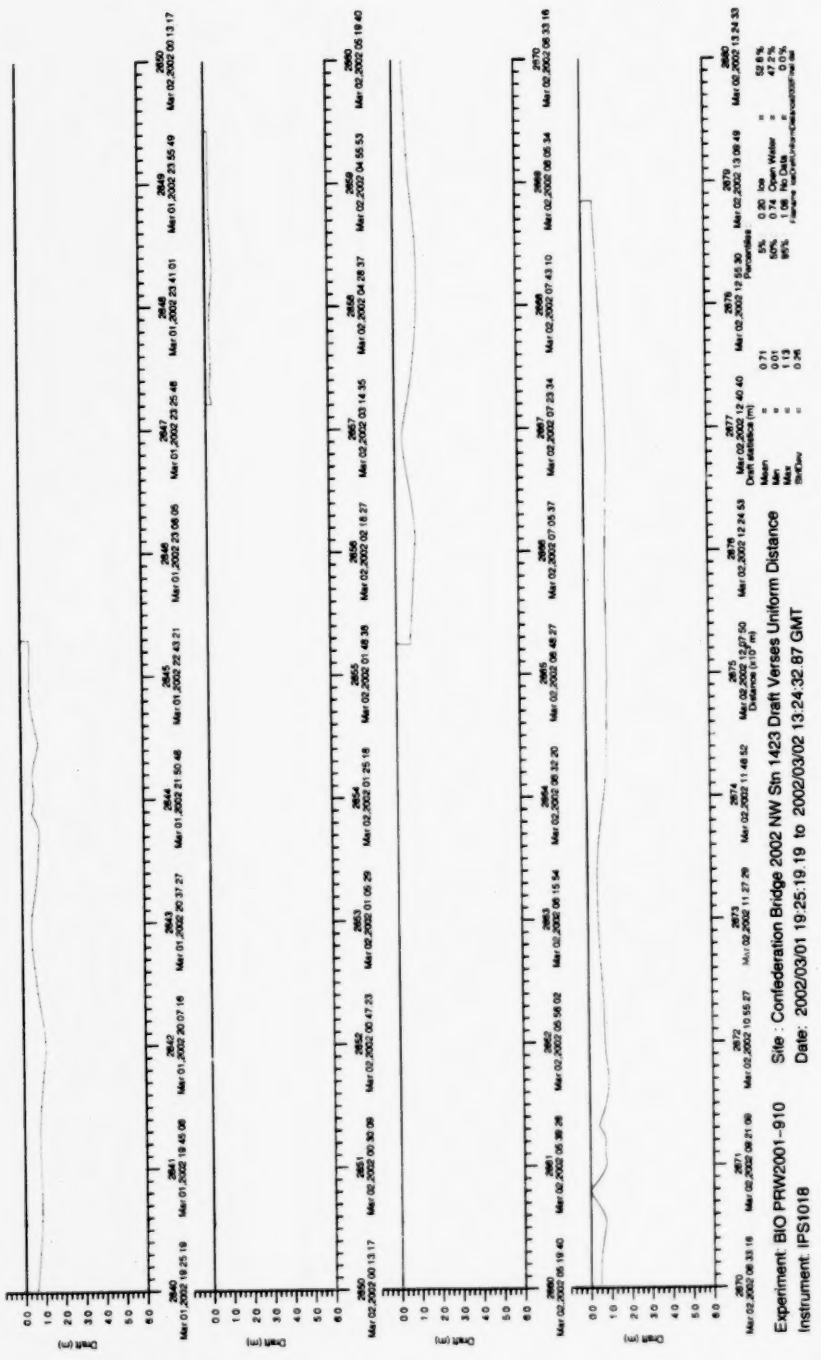
Experiment: BIO PRW2001-910
Instrument: IPS1018

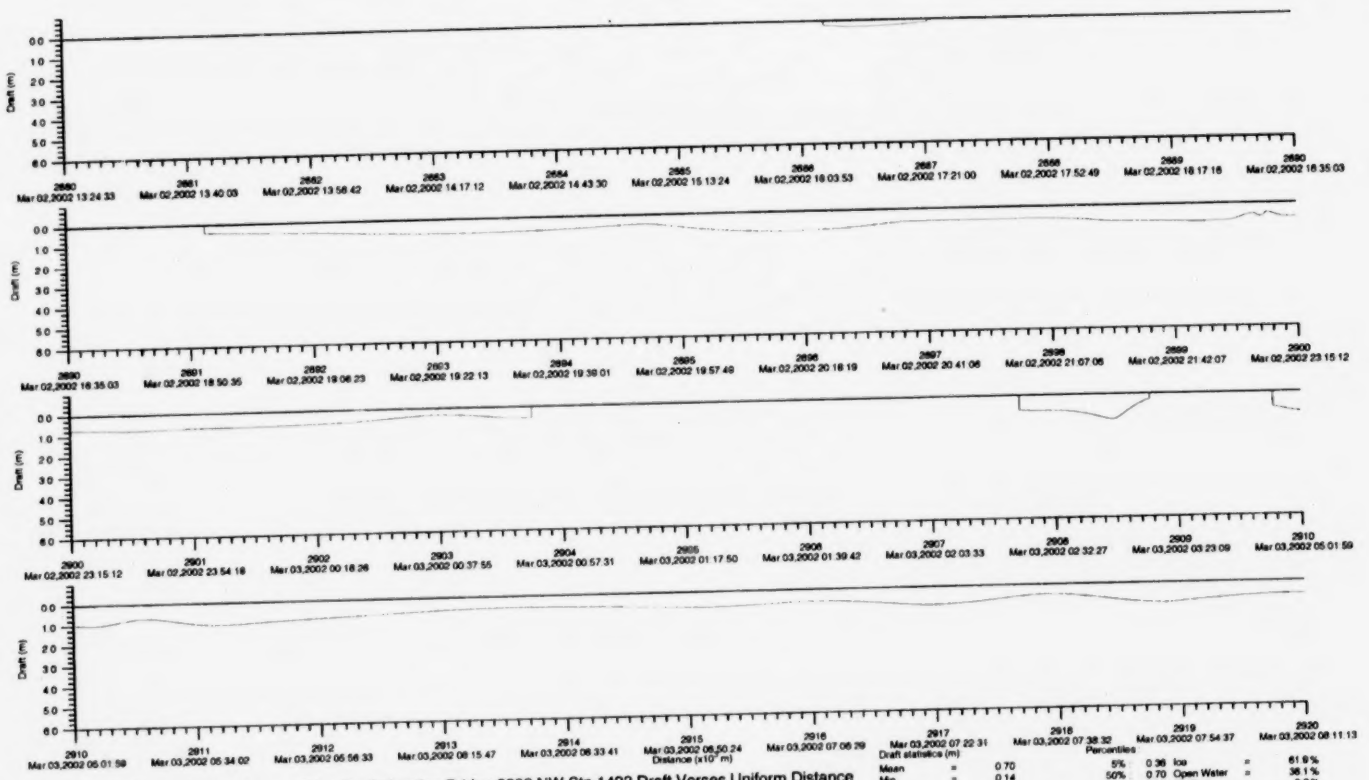
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/26 13:24:17.32 to 2002/02/27 07:44:46.85 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2720 Feb 27,2002 07:44:47
2721 Feb 27,2002 08:05:26
2722 Feb 27,2002 08:36:26
2723 Feb 27,2002 09:21:49
2724 Feb 27,2002 10:06:41
2725 Feb 27,2002 10:37:24
2726 Feb 27,2002 11:05:41
2727 Feb 27,2002 11:36:23
2728 Feb 27,2002 12:32:22
2729 Feb 27,2002 14:00:54
2730 Feb 27,2002 14:32:34
2730 Feb 27,2002 14:32:34
2731 Feb 27,2002 15:00:21
2732 Feb 27,2002 15:23:55
2733 Feb 27,2002 15:43:54
2734 Feb 27,2002 16:03:54
2735 Feb 27,2002 16:22:03
2736 Feb 27,2002 16:39:34
2737 Feb 27,2002 16:58:53
2738 Feb 27,2002 17:14:41
2739 Feb 27,2002 17:33:04
2740 Feb 27,2002 17:53:33
2740 Feb 27,2002 17:53:33
2741 Feb 27,2002 18:13:46
2742 Feb 27,2002 18:34:46
2743 Feb 27,2002 19:01:03
2744 Feb 27,2002 19:34:02
2745 Feb 27,2002 21:00:31
2746 Feb 27,2002 21:50:35
2747 Feb 27,2002 22:12:35
2748 Feb 27,2002 22:35:04
2749 Feb 27,2002 22:56:43
2750 Feb 27,2002 23:20:47
2750 Feb 27,2002 23:20:47
2751 Feb 27,2002 23:49:38
2752 Feb 28,2002 00:35:40
2753 Feb 28,2002 01:57:51
2754 Feb 28,2002 02:28:37
2755 Feb 28,2002 02:52:41
Distance (x10^3 m)
2756 Feb 28,2002 03:11:47
2757 Feb 28,2002 03:28:55
2758 Feb 28,2002 03:45:16
2759 Feb 28,2002 04:01:07
2760 Feb 28,2002 04:16:36
Draft statistics (m)
Mean = 0.66
Min = 0.00
Max = 1.91
StdDev = 0.35
Percentiles
5% 0.05 Ice = 93.6%
50% 0.73 Open Water = 6.4%
95% 1.14 No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/27 07:44:46.85 to 2002/02/28 04:16:36.11 GMT


Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/28 04:16:36.11 to 2002/02/28 23:59:25.15 GMT

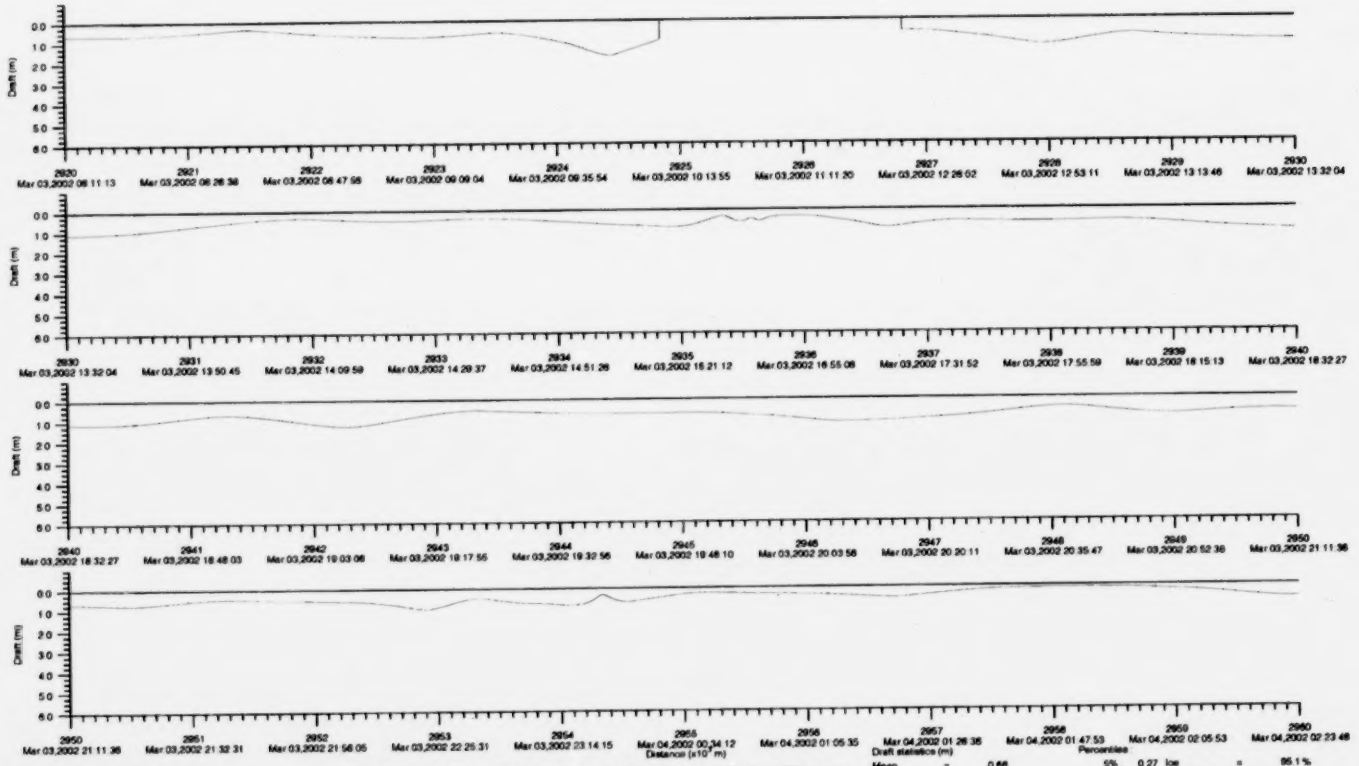

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
2600 Feb 28,2002 23:59:25
2601 Mar 01,2002 00:14:12
2602 Mar 01,2002 00:29:29
2603 Mar 01,2002 00:45:38
2604 Mar 01,2002 01:03:28
2605 Mar 01,2002 01:22:15
2606 Mar 01,2002 01:44:39
2607 Mar 01,2002 02:11:36
2608 Mar 01,2002 02:54:25
2609 Mar 01,2002 04:14:44
2610 Mar 01,2002 05:00:15
2610 Mar 01,2002 05:00:15
2611 Mar 01,2002 05:38:26
2612 Mar 01,2002 06:11:05
2613 Mar 01,2002 06:38:42
2614 Mar 01,2002 07:10:43
2615 Mar 01,2002 08:10:27
2616 Mar 01,2002 09:39:30
2617 Mar 01,2002 10:16:46
2618 Mar 01,2002 10:42:12
2619 Mar 01,2002 11:04:40
2620 Mar 01,2002 11:23:36
2620 Mar 01,2002 11:23:38
2621 Mar 01,2002 11:40:45
2622 Mar 01,2002 11:57:43
2623 Mar 01,2002 12:14:04
2624 Mar 01,2002 12:30:10
2625 Mar 01,2002 12:47:32
2626 Mar 01,2002 13:05:54
2627 Mar 01,2002 13:27:46
2628 Mar 01,2002 13:53:56
2629 Mar 01,2002 14:31:35
2630 Mar 01,2002 16:09:26
2630 Mar 01,2002 16:09:26
2631 Mar 01,2002 16:42:33
2632 Mar 01,2002 17:05:51
2633 Mar 01,2002 17:25:45
2634 Mar 01,2002 17:43:44
2635 Mar 01,2002 18:01:05
Distance (x10^3 m)
2636 Mar 01,2002 18:18:16
2637 Mar 01,2002 18:33:57
2638 Mar 01,2002 18:49:32
2639 Mar 01,2002 19:05:26
2640 Mar 01,2002 19:25:19
Draft statistics (m)
Mean = 0.64
Min = 0.32
Max = 1.42
StdDev = 0.26
Percentiles
5% 0.33 Ice = 10.1 %
50% 0.58 Open Water = 89.9 %
95% 1.09 No Data = 0.0 %
Filename: IceDraftUniformDistance2002Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/02/28 23:59:25.15 to 2002/03/01 19:25:19.19 GMT


Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/01 19:25:19 19 to 2002/03/02 13:24:32.87 GMT
Draft (m)



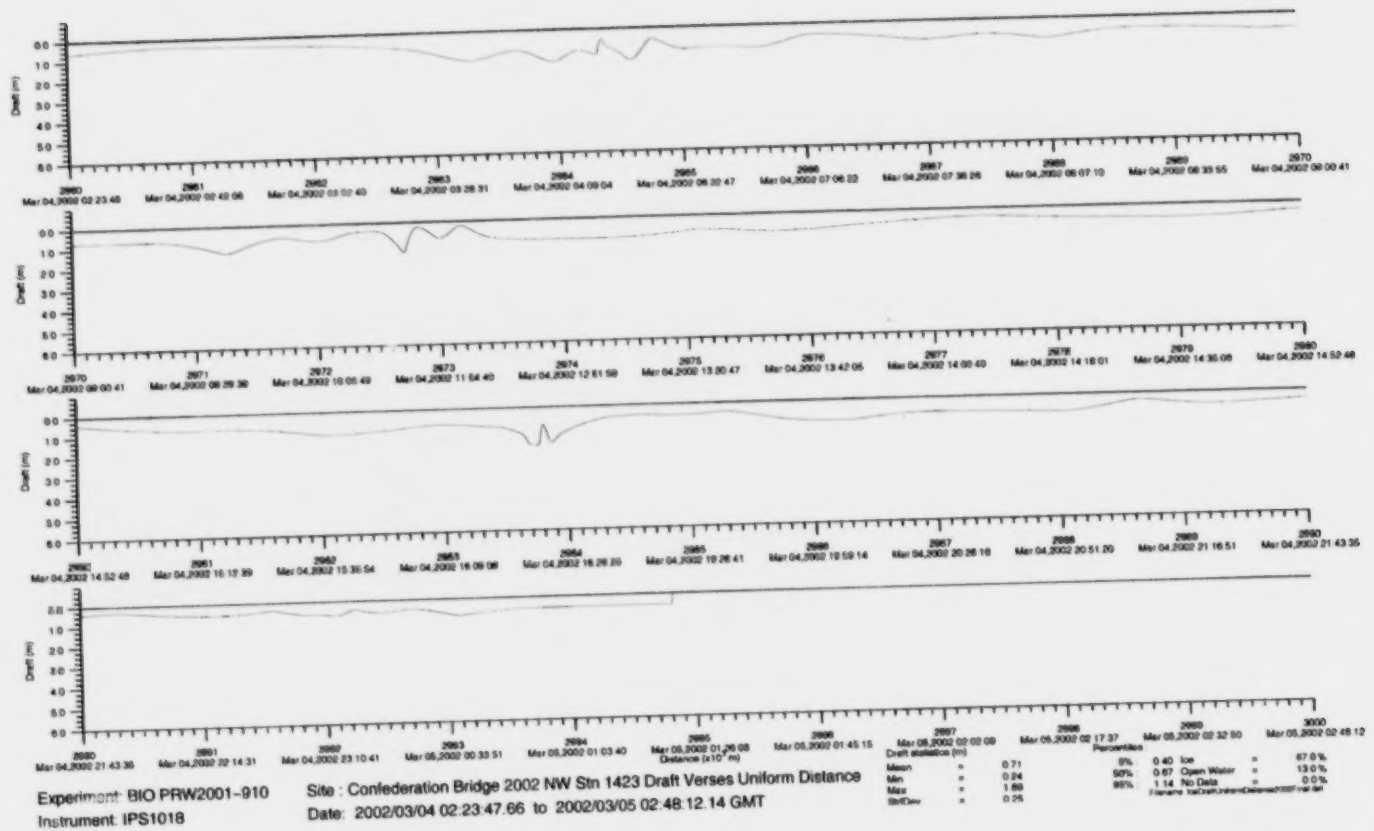
Experiment: BIO PRW2001-910
Instrument: IPS1018

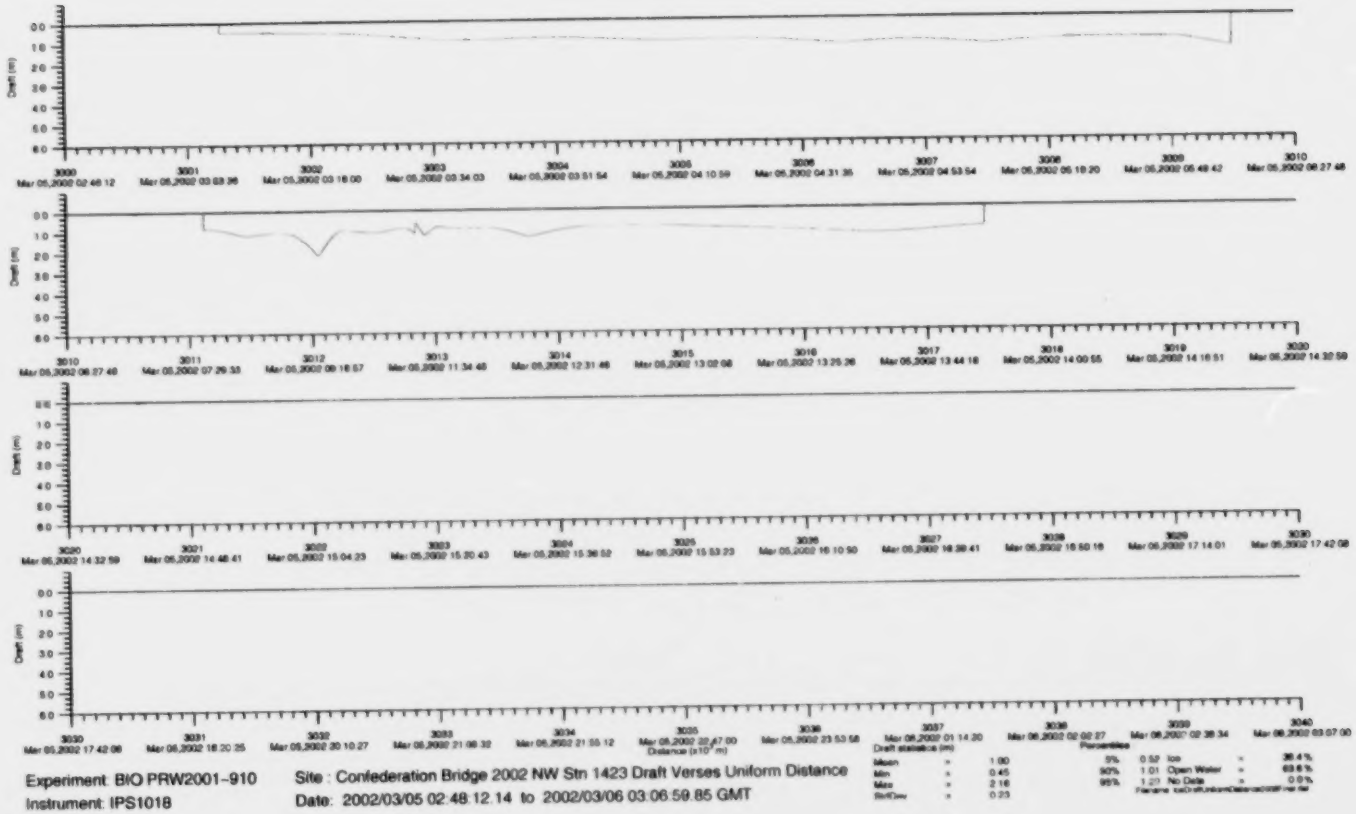
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/02 13:24:32.87 to 2002/03/03 08:11:13.34 GMT

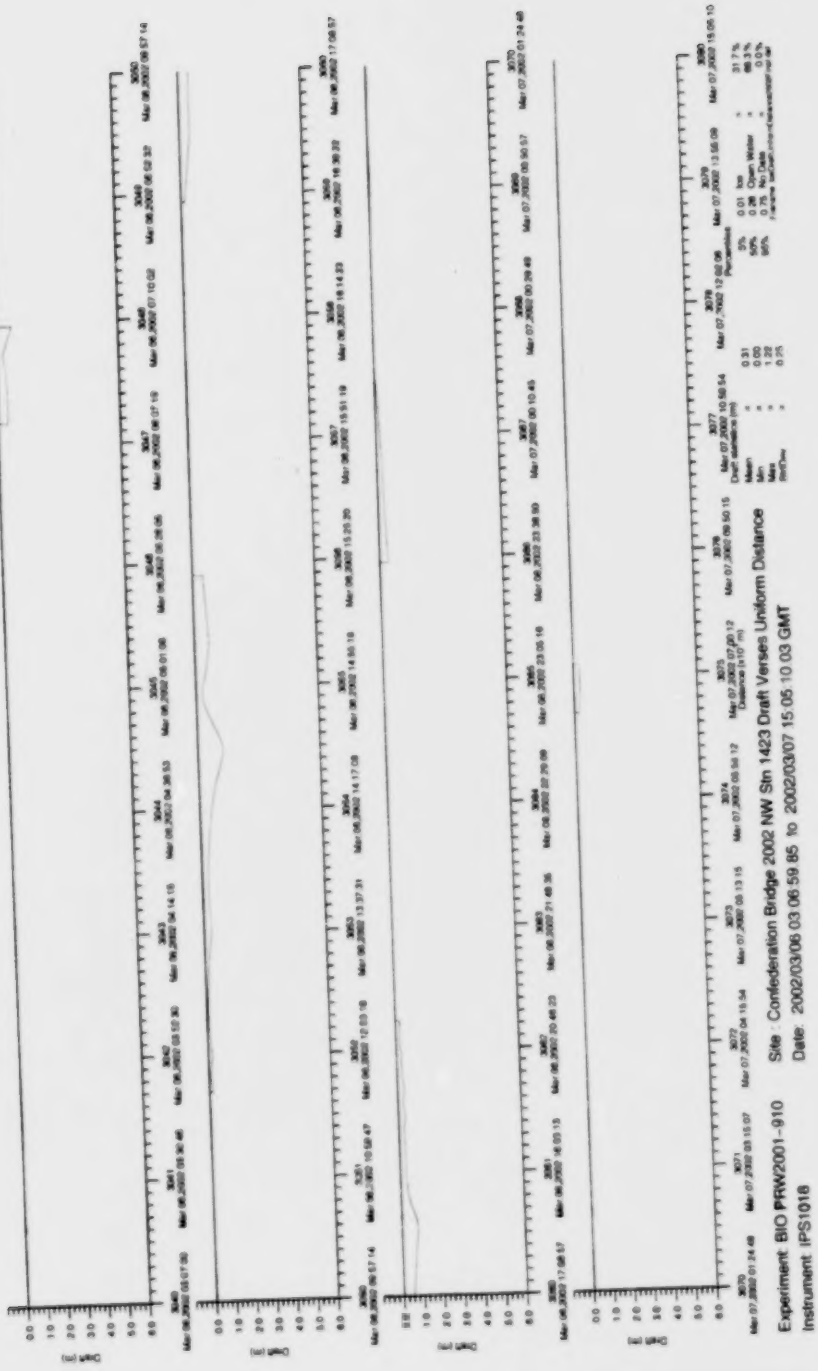


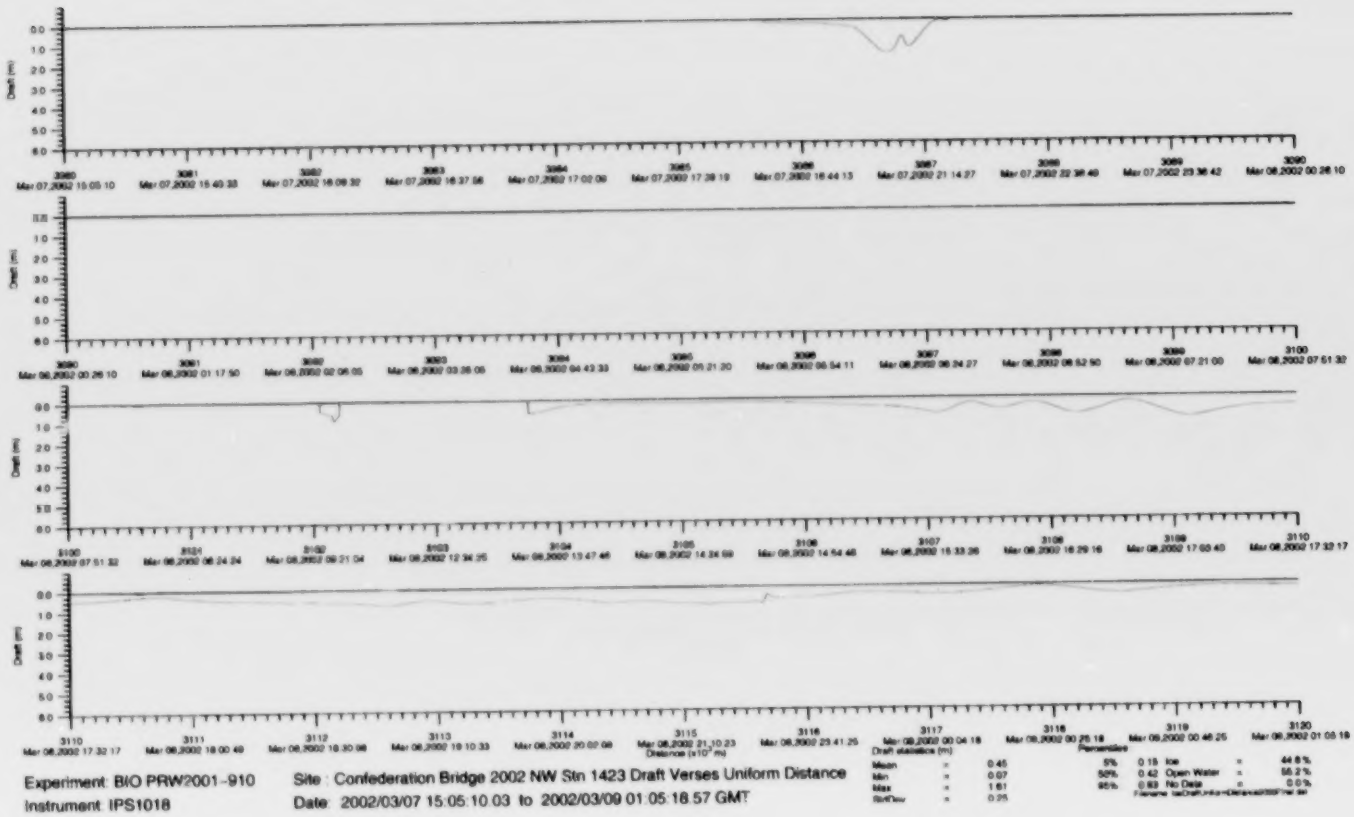
Experiment: BIO PRW2001-910
Instrument: IPS1018

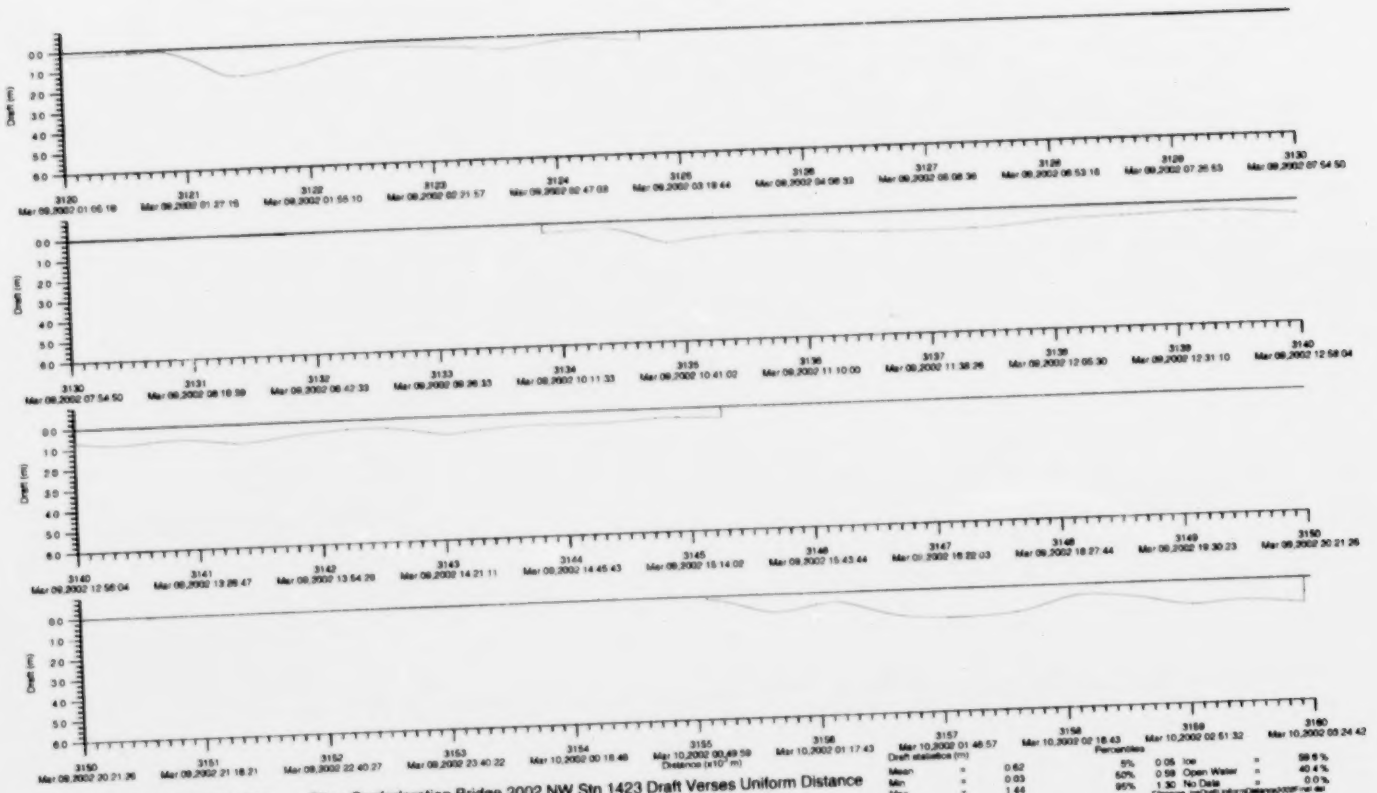
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/03 08:11:13.34 to 2002/03/04 02:23:47.66 GMT


Draft (m)
Distance (x10^-4 m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/04 02:23:47.66 to 2002/03/05 02:48:12.14 GMT


Draft (m)
Distance (x10^1 m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/05 02:48:12.14 to 2002/03/06 03:06:59.85 GMT

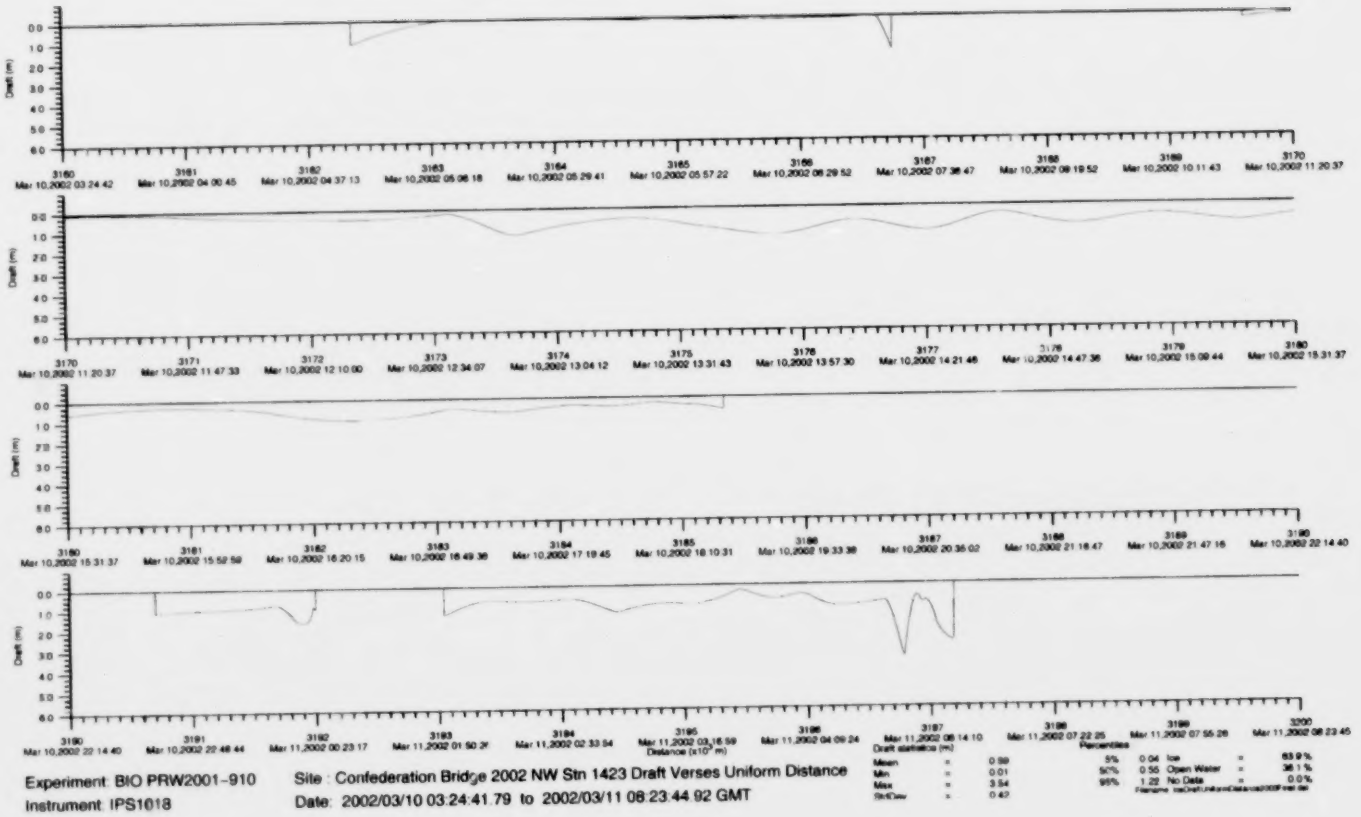

Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/06 03:06:59.85 to 2002/03/07 15:05:10.03 GMT


Draft (m)
Distance (x10^4 m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/07 15:05:10.03 to 2002/03/09 01:05:18.57 GMT

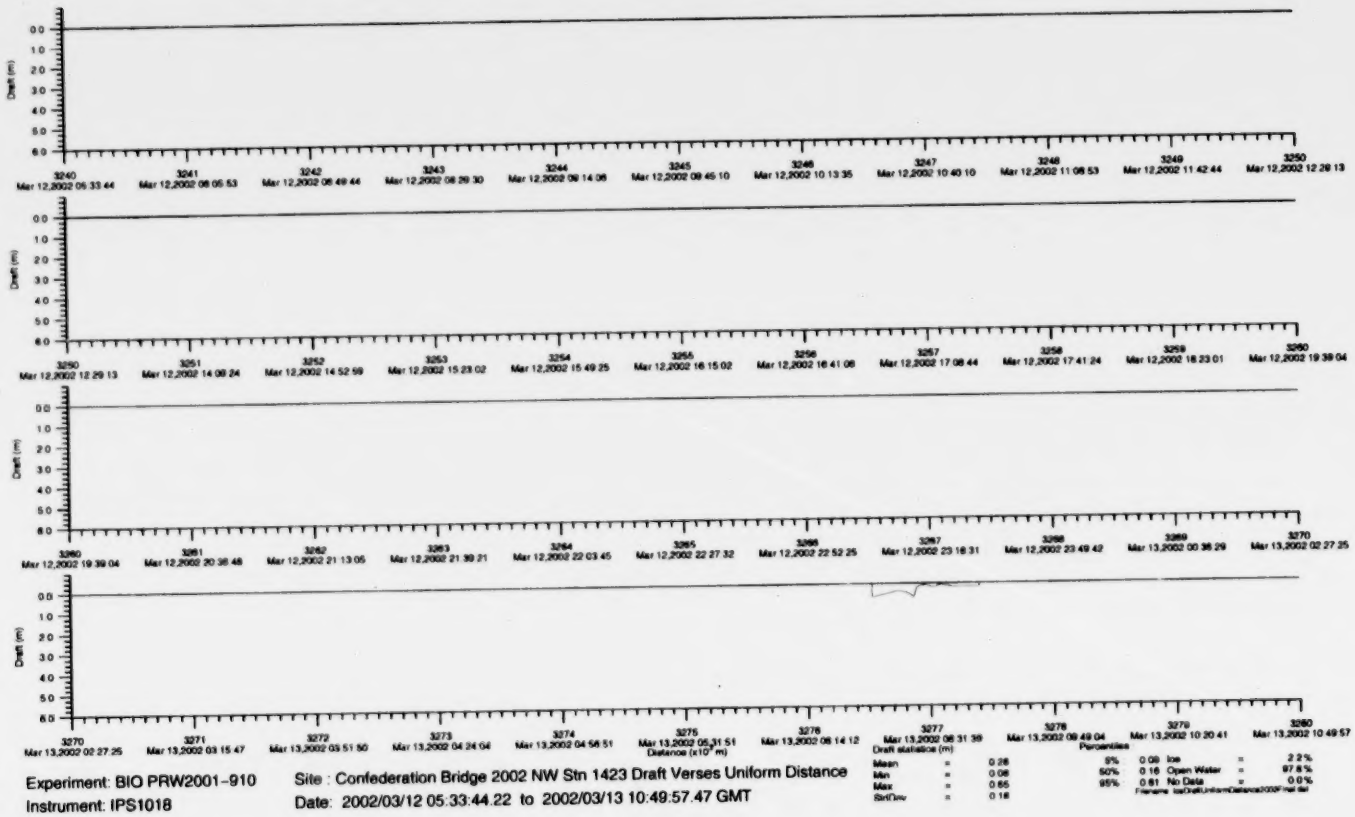


Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/09 01:05:18.57 to 2002/03/10 03:24:41.79 GMT


Draft (m)
Distance (x10³ m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/10 03:24:41.79 to 2002/03/11 08:23:44.92 GMT
Draft statistics (m)
Mean = 0.59
Min = 0.01
Max = 3.54
StdDev = 0.47
Percentiles
5% 0.04 Ice = 53.9 %
50% 0.56 Open Water = 36.1 %
95% 1.22 No Data = 0.0 %

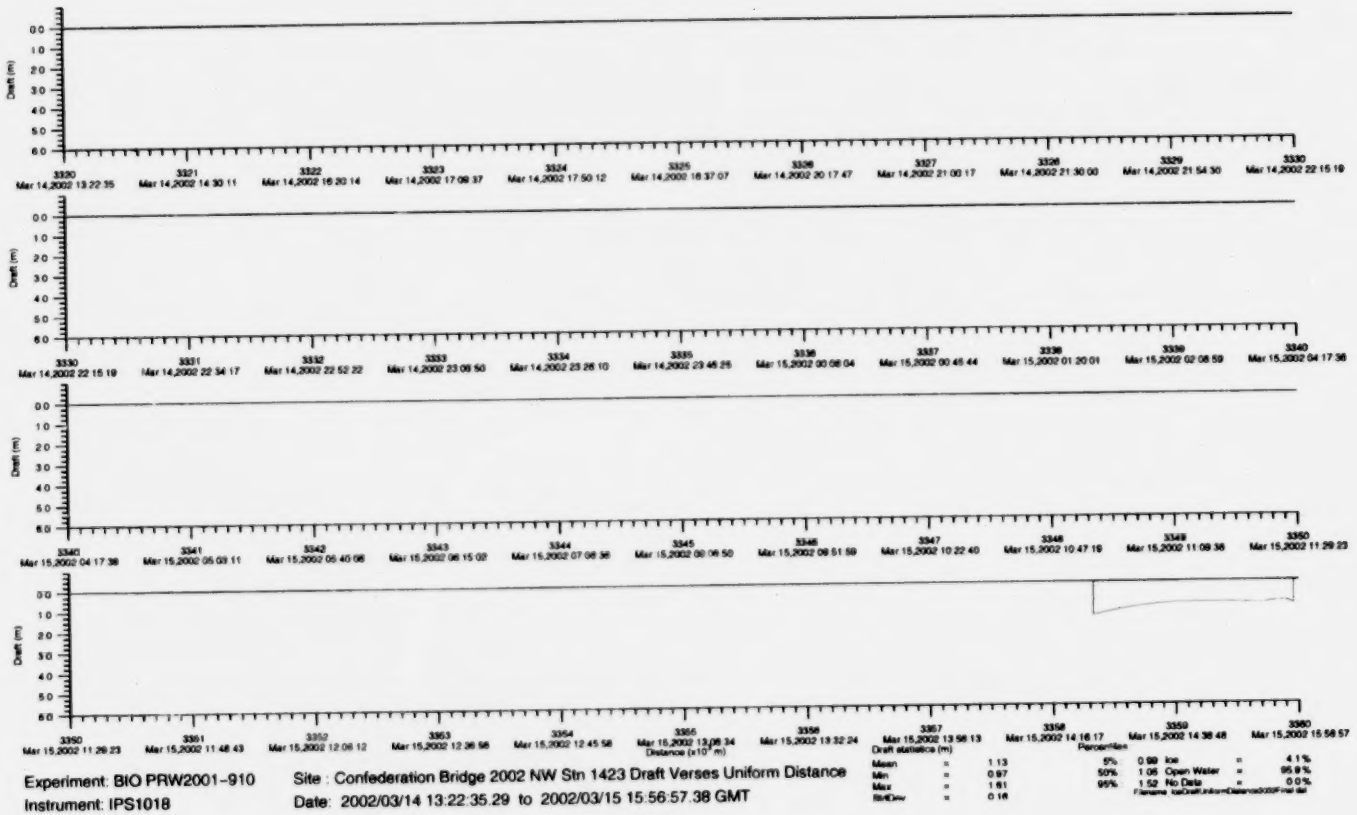
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/11 08:23:44.92 to 2002/03/12 05:33:44.22 GMT
Experiment: BIO PRW2001-910
Instrument: IPS1018

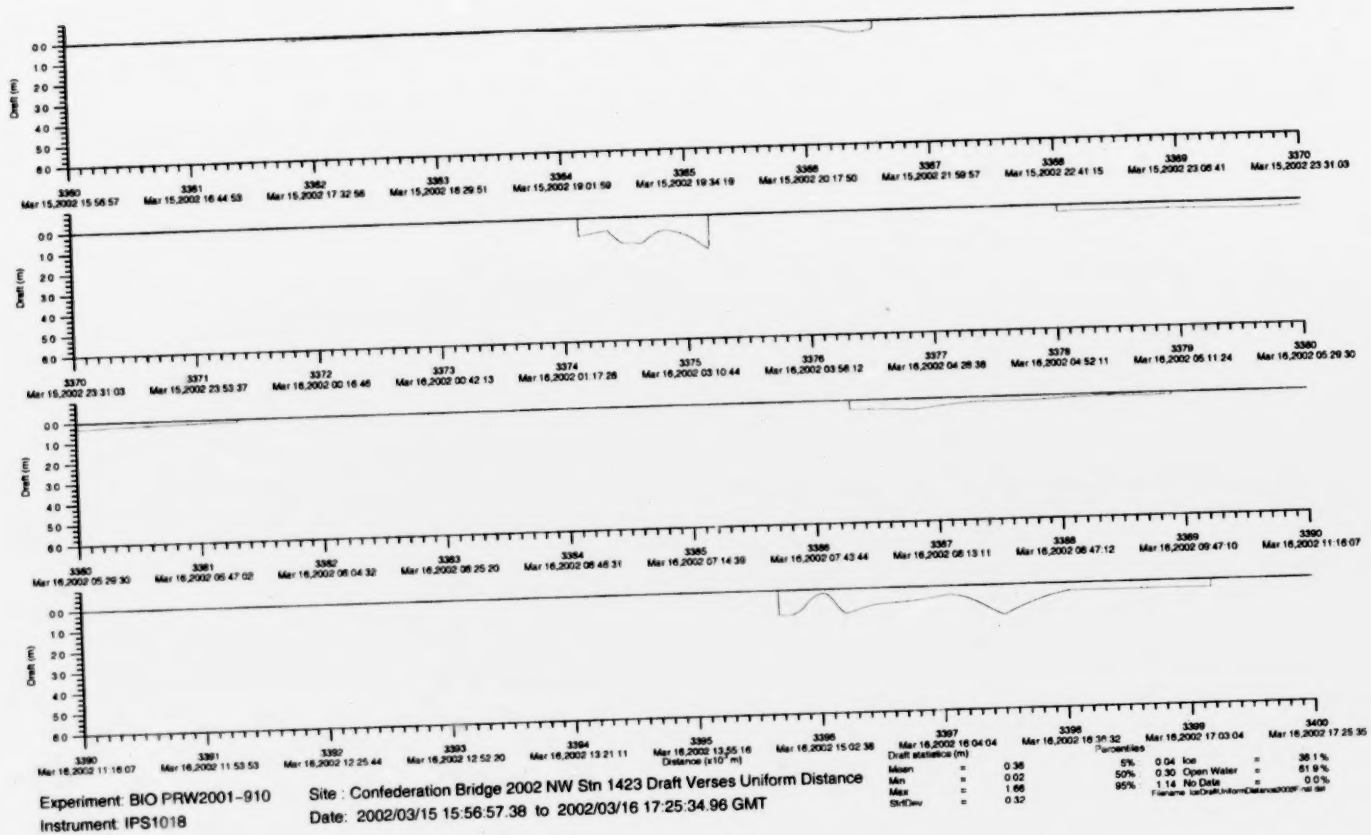


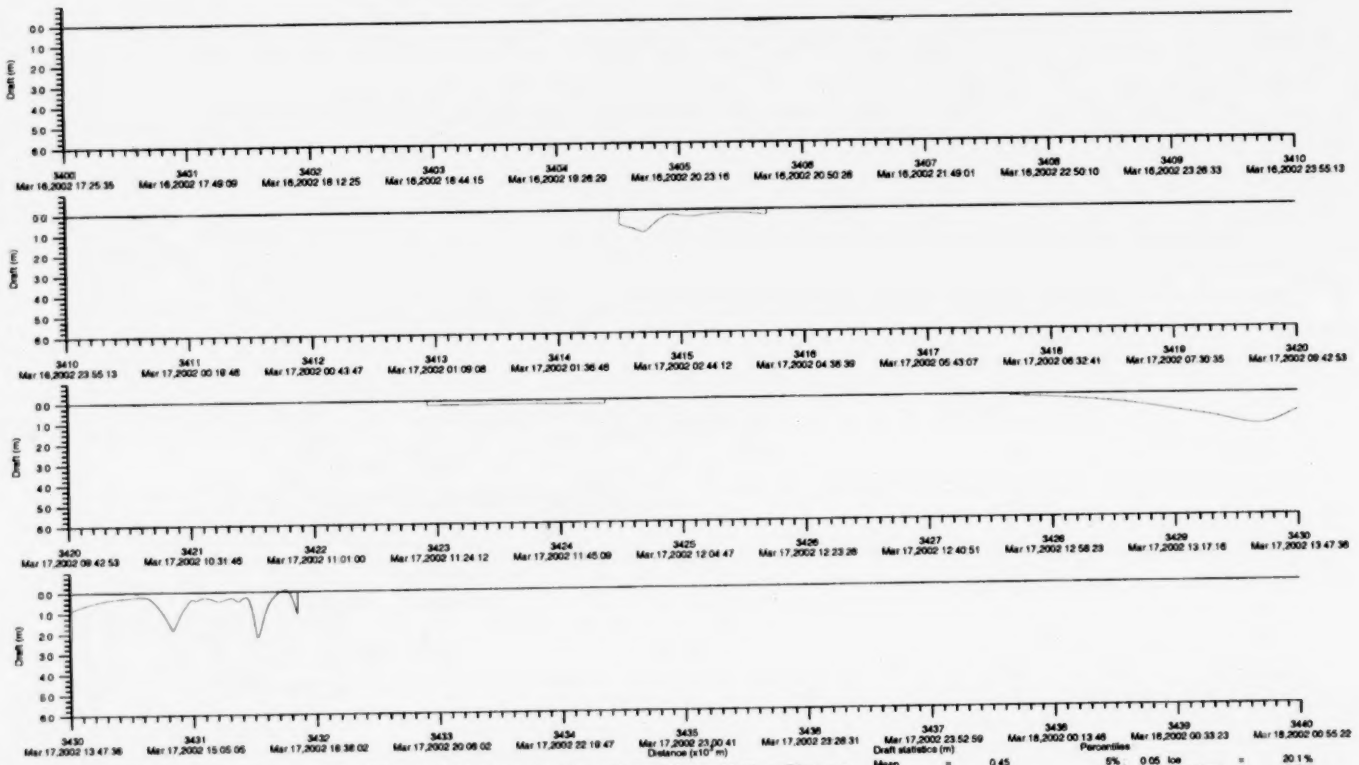
Experiment: BIO PRW2001-910
Instrument: IPS1018

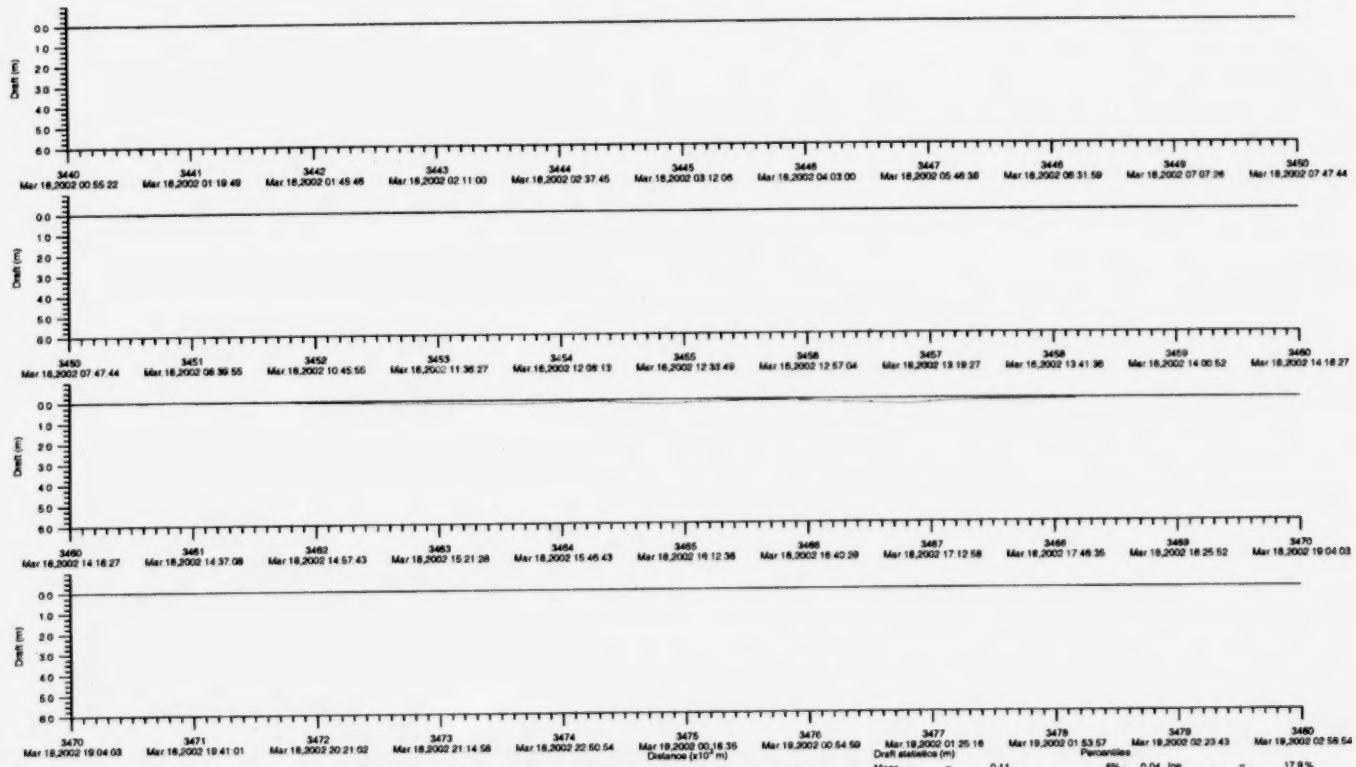
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/12 05:33:44.22 to 2002/03/13 10:49:57.47 GMT

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/13 10:49:57.47 to 2002/03/14 13:22:35.29 GMT
Experiment: BIO PRW2001-910
Instrument: IPS1018


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
3320 Mar 14,2002 13:22:35
3321 Mar 14,2002 14:30:11
3322 Mar 14,2002 16:20:14
3323 Mar 14,2002 17:09:37
3324 Mar 14,2002 17:50:12
3325 Mar 14,2002 18:37:07
3326 Mar 14,2002 20:17:47
3327 Mar 14,2002 21:00:17
3328 Mar 14,2002 21:30:00
3329 Mar 14,2002 21:54:50
3330 Mar 14,2002 22:15:19
3330 Mar 14,2002 22:15:19
3331 Mar 14,2002 22:54:17
3332 Mar 14,2002 22:52:22
3333 Mar 14,2002 23:09:50
3334 Mar 14,2002 23:26:10
3335 Mar 14,2002 23:46:25
3336 Mar 15,2002 00:06:04
3337 Mar 15,2002 00:45:44
3338 Mar 15,2002 01:20:01
3339 Mar 15,2002 02:08:59
3340 Mar 15,2002 04:17:38
3340 Mar 15,2002 04:17:38
3341 Mar 15,2002 05:03:11
3342 Mar 15,2002 05:40:06
3343 Mar 15,2002 06:15:02
3344 Mar 15,2002 07:06:36
3345 Mar 15,2002 08:06:50
3346 Mar 15,2002 09:51:59
3347 Mar 15,2002 10:22:40
3348 Mar 15,2002 10:47:19
3349 Mar 15,2002 11:09:36
3350 Mar 15,2002 11:29:23
3350 Mar 15,2002 11:29:23
3351 Mar 15,2002 11:48:43
3352 Mar 15,2002 12:06:12
3353 Mar 15,2002 12:26:56
3354 Mar 15,2002 12:45:56
3355 Mar 15,2002 13:06:24
3356 Mar 15,2002 13:32:24
3357 Mar 15,2002 13:56:13
3358 Mar 15,2002 14:16:17
3359 Mar 15,2002 14:38:48
3360 Mar 15,2002 15:56:57
Distance (x10³ m)
Draft statistics (m)
Mean = 1.13
Min = 0.97
Max = 1.61
StdDev = 0.14
Percentiles
5% 0.99
50% 1.06
95% 1.52
Ice = 4.1%
Open Water = 95.8%
No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/14 13:22:35.29 to 2002/03/15 15:56:57.38 GMT

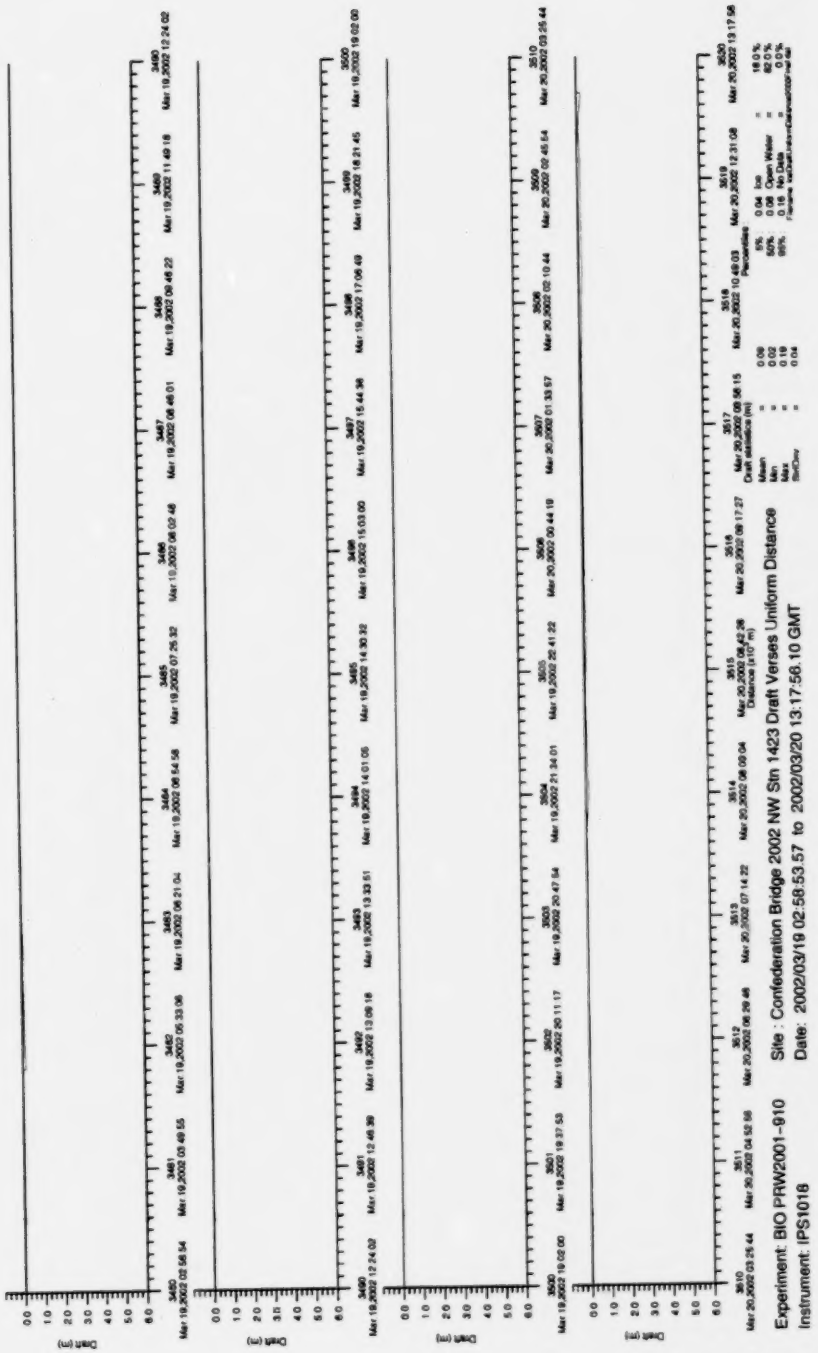

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
3360 Mar 15,2002 15:56:57
3361 Mar 15,2002 16:44:53
3362 Mar 15,2002 17:32:56
3363 Mar 15,2002 18:29:51
3364 Mar 15,2002 19:01:59
3365 Mar 15,2002 19:34:19
3366 Mar 15,2002 20:17:50
3367 Mar 15,2002 21:59:57
3368 Mar 15,2002 22:41:15
3369 Mar 15,2002 23:06:41
3370 Mar 15,2002 23:31:03
3370 Mar 15,2002 23:31:03
3371 Mar 15,2002 23:53:37
3372 Mar 16,2002 00:16:46
3373 Mar 16,2002 00:42:13
3374 Mar 16,2002 01:17:28
3375 Mar 16,2002 03:10:44
3376 Mar 16,2002 03:56:12
3377 Mar 16,2002 04:28:38
3378 Mar 16,2002 04:52:11
3379 Mar 16,2002 05:11:24
3380 Mar 16,2002 05:29:30
3380 Mar 16,2002 05:29:30
3381 Mar 16,2002 05:47:02
3382 Mar 16,2002 06:04:32
3383 Mar 16,2002 06:25:20
3384 Mar 16,2002 06:46:31
3385 Mar 16,2002 07:14:39
3386 Mar 16,2002 07:43:44
3387 Mar 16,2002 08:13:11
3388 Mar 16,2002 08:47:12
3389 Mar 16,2002 09:47:10
3390 Mar 16,2002 11:16:07
3390 Mar 16,2002 11:16:07
3391 Mar 16,2002 11:53:53
3392 Mar 16,2002 12:25:44
3393 Mar 16,2002 12:52:20
3394 Mar 16,2002 13:21:11
3395 Mar 16,2002 13:55:16
Distance (x10^-3 m)
3396 Mar 16,2002 15:02:38
3397 Mar 16,2002 16:04:04
3398 Mar 16,2002 16:39:32
3399 Mar 16,2002 17:03:04
3400 Mar 16,2002 17:25:35
Draft statistics (m)
Mean = 0.36
Min = 0.02
Max = 1.66
StdDev = 0.32
Percentiles
5% 0.04
50% 0.30
95% 1.14
Ice = 38.1%
Open Water = 61.9%
No Data = 0.0%
Filename \\a\Draft\Uniform\Distance\2002\Final.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/15 15:56:57.38 to 2002/03/16 17:25:34.96 GMT

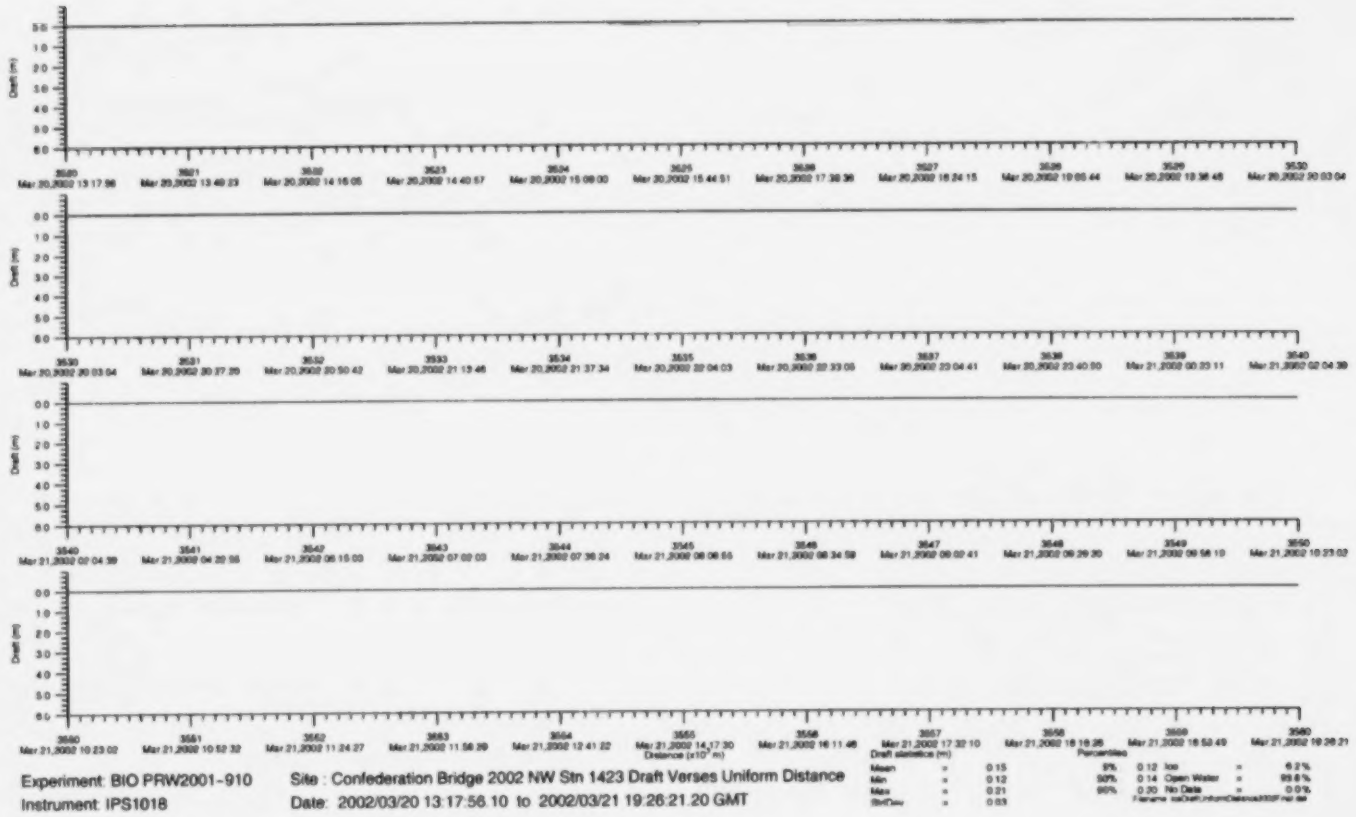

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
3400 Mar 16,2002 17:25:35
3401 Mar 16,2002 17:49:09
3402 Mar 16,2002 18:12:25
3403 Mar 16,2002 18:44:15
3404 Mar 16,2002 19:26:29
3405 Mar 16,2002 20:23:16
3406 Mar 16,2002 20:50:26
3407 Mar 16,2002 21:49:01
3408 Mar 16,2002 22:50:10
3409 Mar 16,2002 23:26:33
3410 Mar 16,2002 23:55:13
3410 Mar 16,2002 23:55:13
3411 Mar 17,2002 00:19:46
3412 Mar 17,2002 00:43:47
3413 Mar 17,2002 01:09:08
3414 Mar 17,2002 01:36:46
3415 Mar 17,2002 02:44:12
3416 Mar 17,2002 04:38:39
3417 Mar 17,2002 05:43:07
3418 Mar 17,2002 06:32:41
3419 Mar 17,2002 07:30:35
3420 Mar 17,2002 09:42:53
3420 Mar 17,2002 09:42:53
3421 Mar 17,2002 10:31:46
3422 Mar 17,2002 11:01:00
3423 Mar 17,2002 11:24:12
3424 Mar 17,2002 11:45:09
3425 Mar 17,2002 12:04:47
3426 Mar 17,2002 12:23:26
3427 Mar 17,2002 12:40:51
3428 Mar 17,2002 12:58:23
3429 Mar 17,2002 13:17:16
3430 Mar 17,2002 13:47:36
3430 Mar 17,2002 13:47:36
3431 Mar 17,2002 15:05:05
3432 Mar 17,2002 16:38:02
3433 Mar 17,2002 20:06:02
3434 Mar 17,2002 22:19:47
3435 Mar 17,2002 23:00:41
Distance (x10^-1 m)
3436 Mar 17,2002 23:26:31
3437 Mar 17,2002 23:52:59
3438 Mar 18,2002 00:13:46
3439 Mar 18,2002 00:33:23
3440 Mar 18,2002 00:55:22
Draft statistics (m)
Mean = 0.45
Min = -0.06
Max = 2.21
StdDev = 0.44
Percentiles
5% 0.05 Ice = 20.1%
50% 0.25 Open Water = 79.9%
95% 1.44 No Data = 0.0%
Filename: IceDraftUniformDistance2002Partial.dat
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/16 17:25:34.96 to 2002/03/18 00:55:21.75 GMT

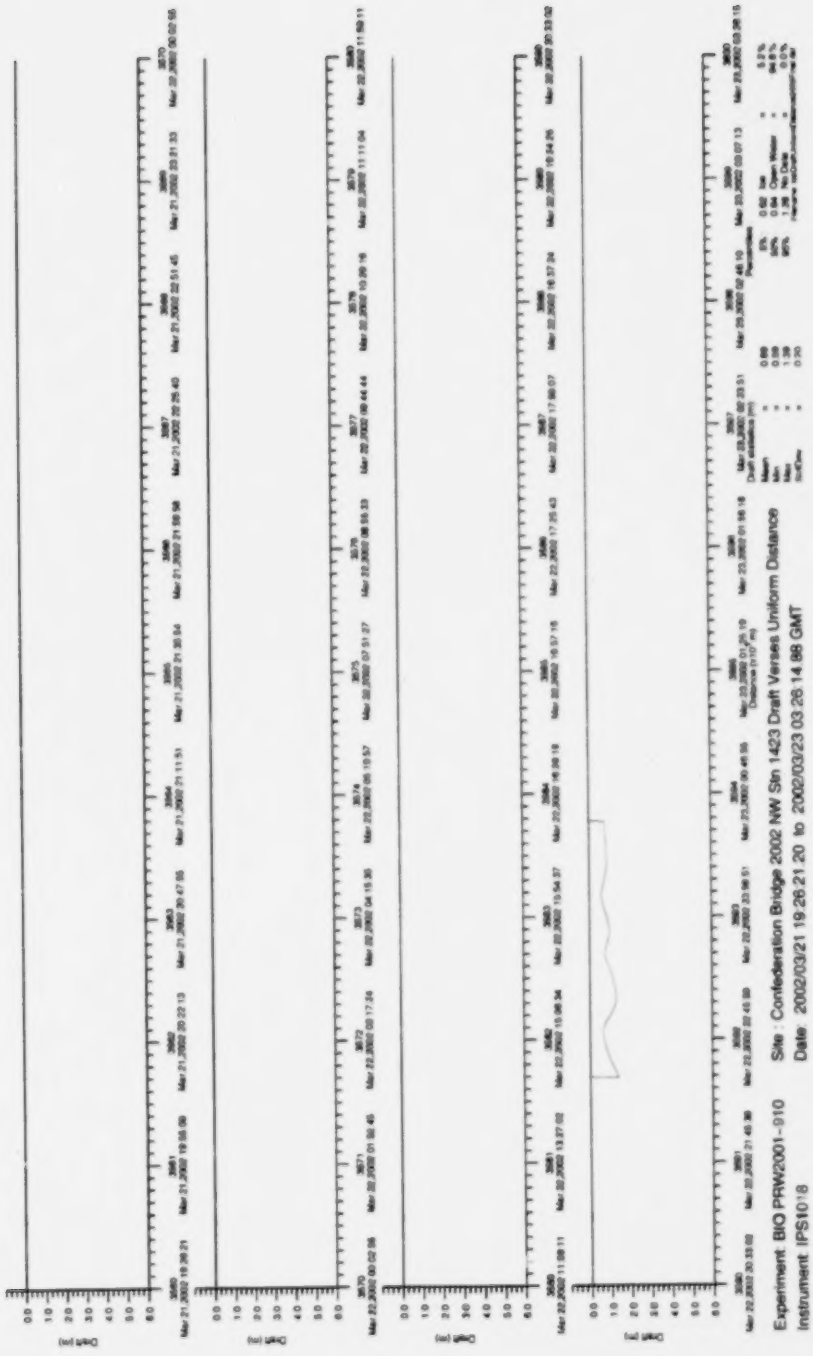


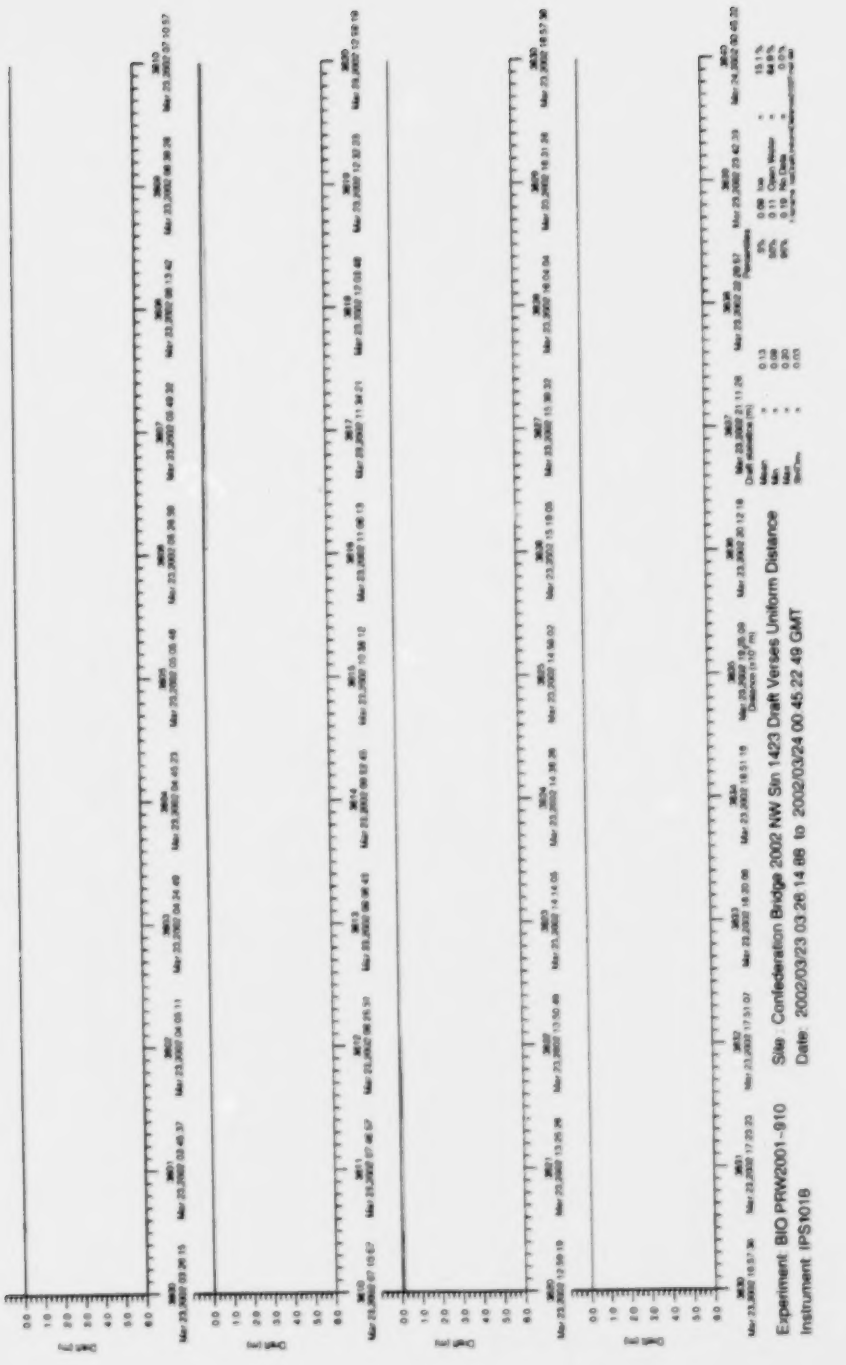
Experiment: BIO PRW2001-910
Instrument: IPS1018

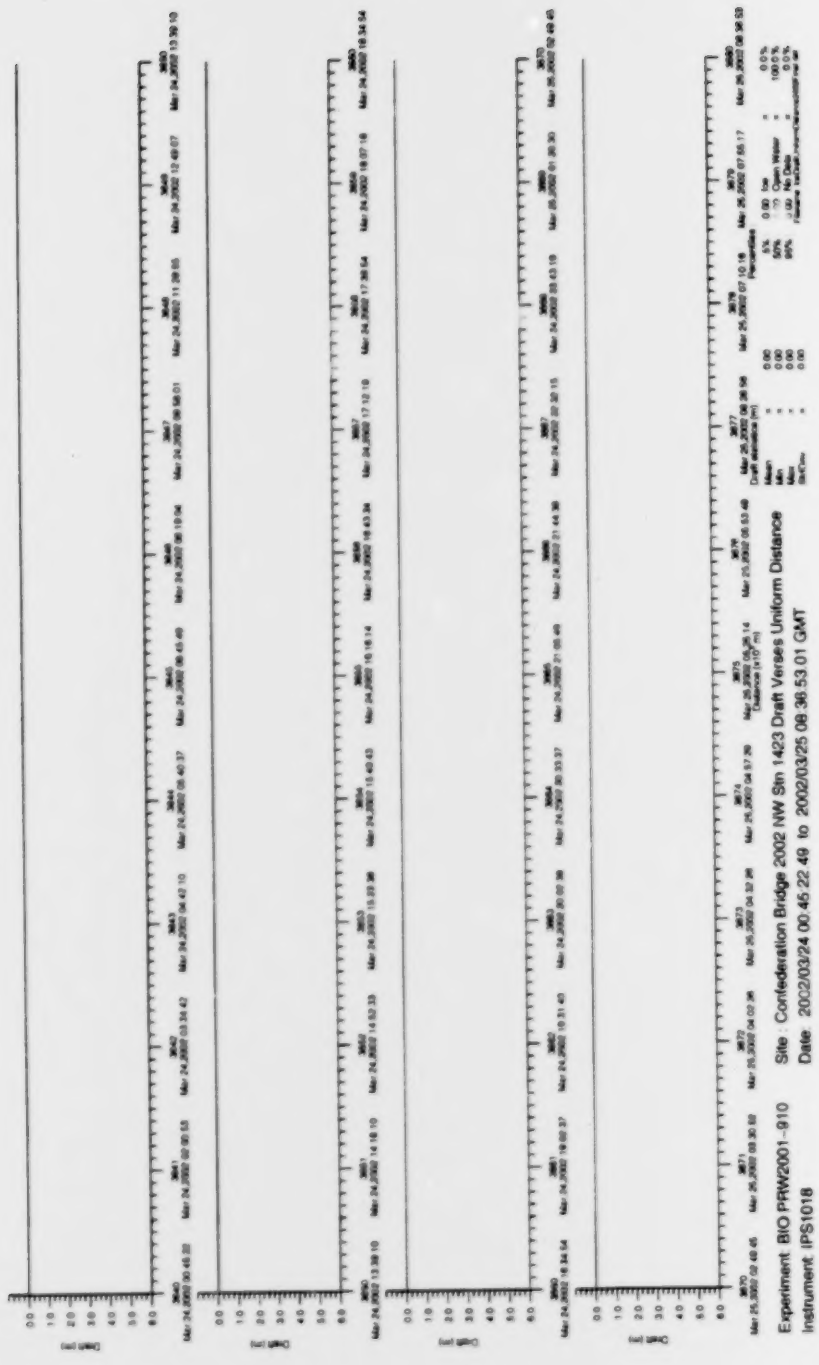
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/18 00:55:21.75 to 2002/03/19 02:58:53.57 GMT

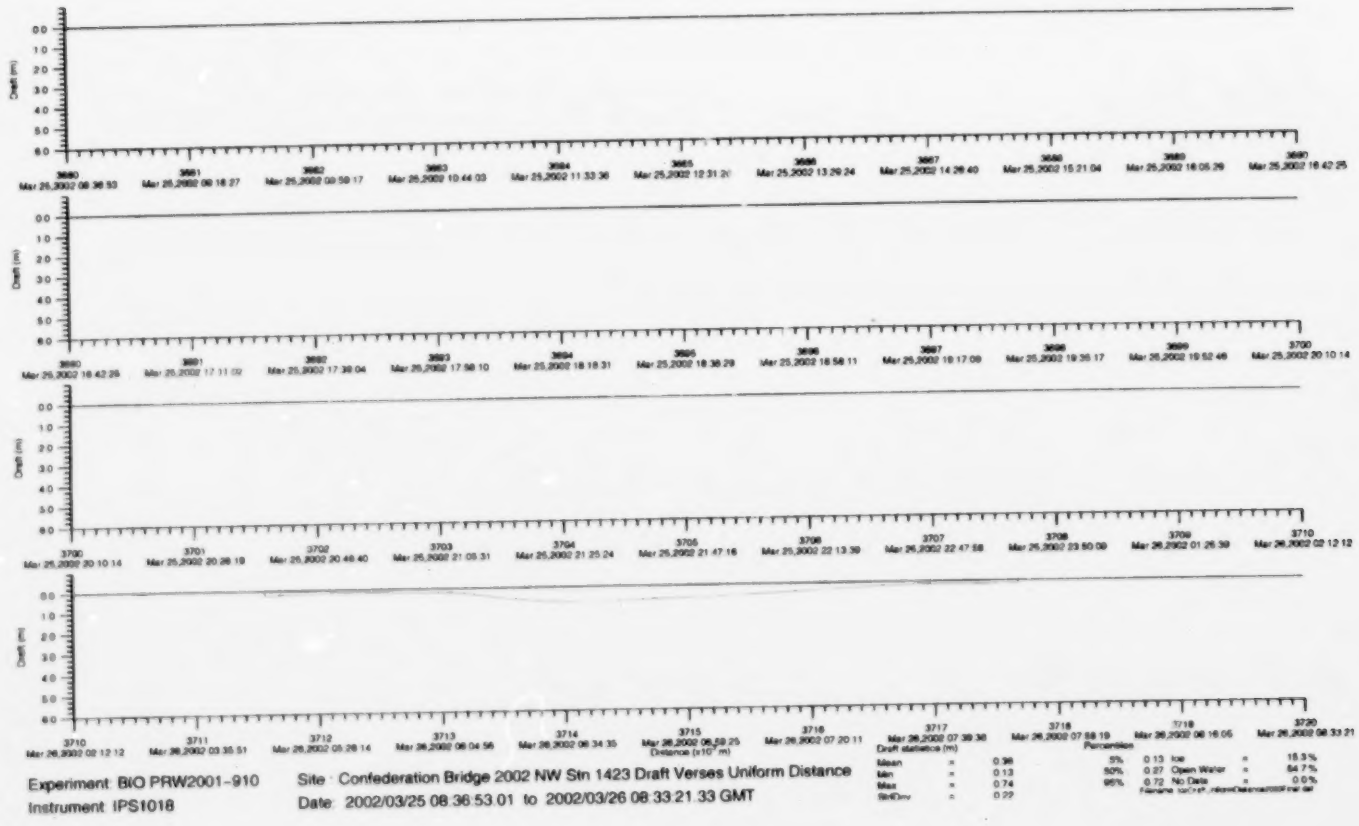

Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/19 02:58:53.57 to 2002/03/20 13:17:56.10 GMT

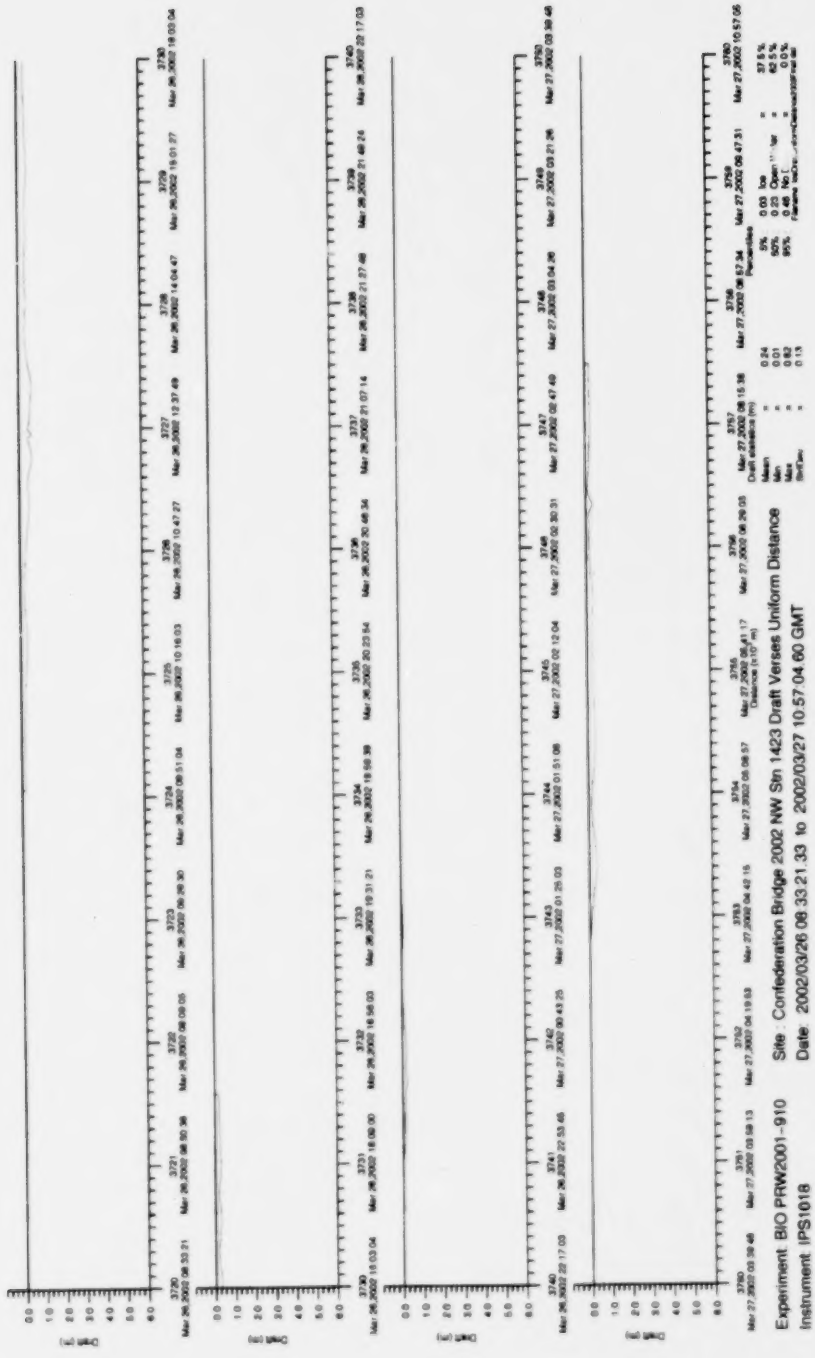

Draft (m)
Distance (x10³ m)
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/20 13:17:56.10 to 2002/03/21 19:26:21.20 GMT

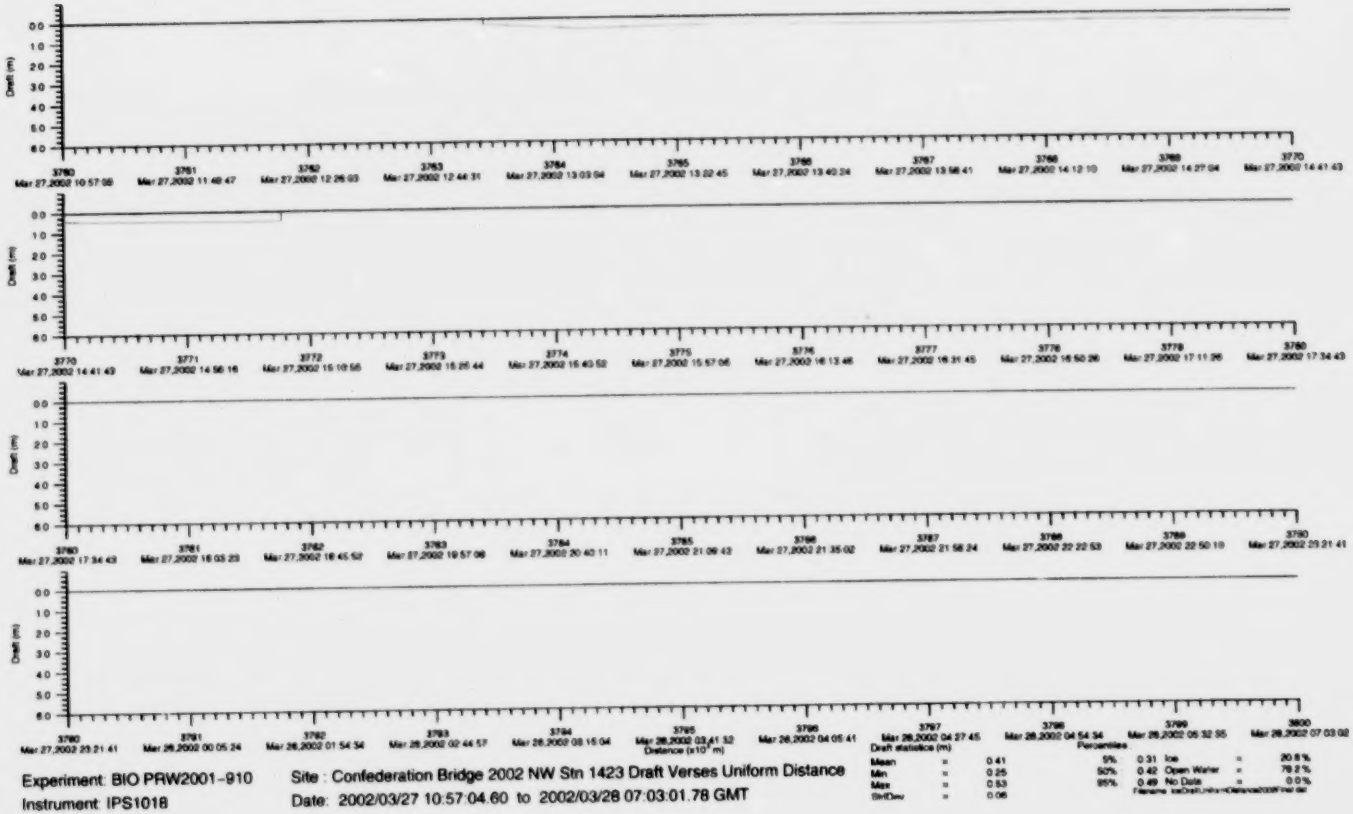

Experiment: BIO PRW2001-910
Instrument: IPS10/18
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/21 19:26:21.20 to 2002/03/23 03:26:14.88 GMT

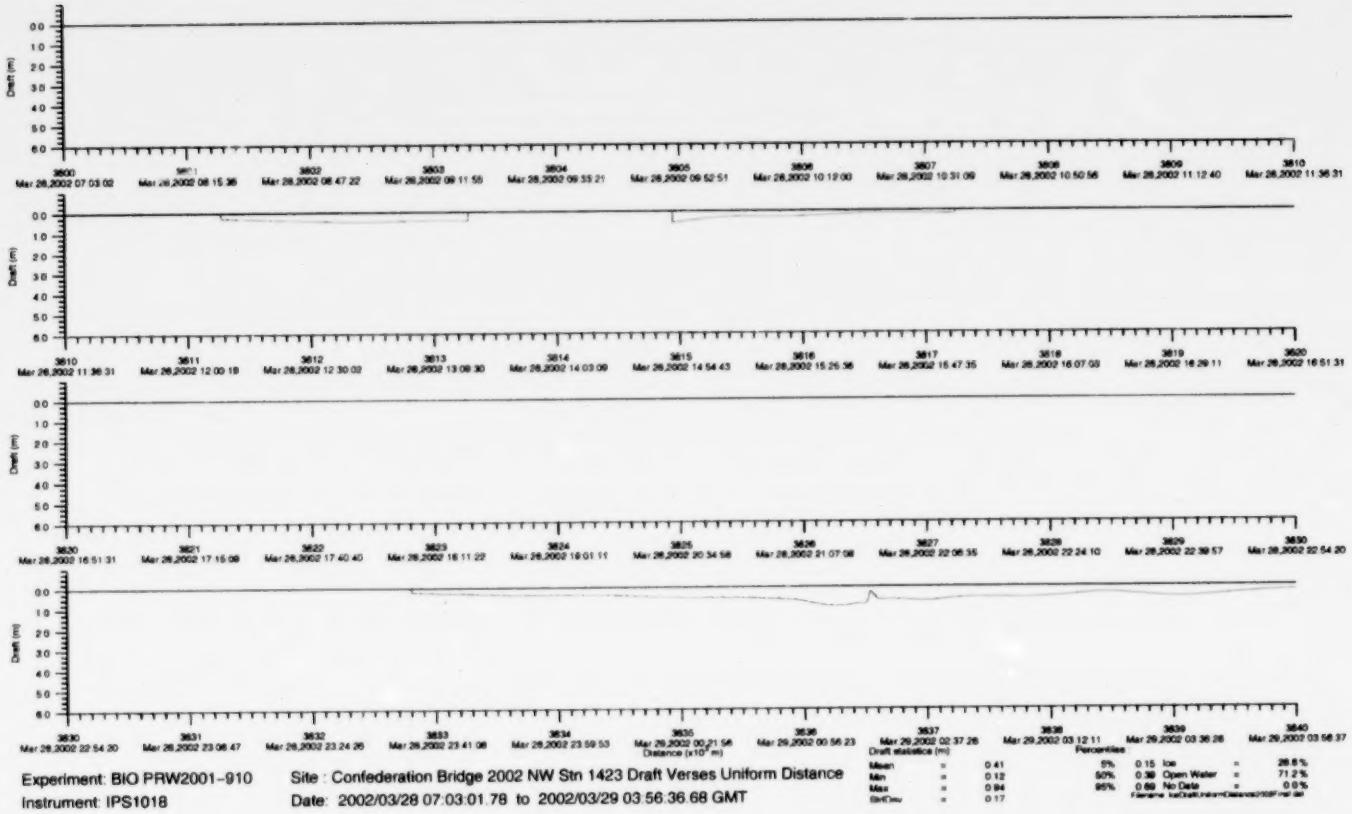

Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/23 03:26:14.86 to 2002/03/24 00:45:22.49 GMT


Experiment: BIO PRW2001-910
Site: Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Instrument: IPS1018
Date: 2002/03/24 00:45:22.49 to 2002/03/25 08:36:53.01 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
3680 Mar 25,2002 08:36:53
3681 Mar 25,2002 09:16:27
3682 Mar 25,2002 09:59:17
3683 Mar 25,2002 10:44:03
3684 Mar 25,2002 11:33:36
3685 Mar 25,2002 12:31:20
3686 Mar 25,2002 13:29:24
3687 Mar 25,2002 14:26:40
3688 Mar 25,2002 15:21:04
3689 Mar 25,2002 16:05:29
3690 Mar 25,2002 16:42:25
3690 Mar 25,2002 16:42:25
3691 Mar 25,2002 17:11:02
3692 Mar 25,2002 17:39:04
3693 Mar 25,2002 17:58:10
3694 Mar 25,2002 18:18:31
3695 Mar 25,2002 18:38:29
3696 Mar 25,2002 18:58:11
3697 Mar 25,2002 19:17:09
3698 Mar 25,2002 19:36:17
3699 Mar 25,2002 19:52:48
3700 Mar 25,2002 20:10:14
3700 Mar 25,2002 20:10:14
3701 Mar 25,2002 20:28:19
3702 Mar 25,2002 20:46:40
3703 Mar 25,2002 21:05:31
3704 Mar 25,2002 21:25:24
3705 Mar 25,2002 21:47:16
3706 Mar 25,2002 22:13:39
3707 Mar 26,2002 22:47:58
3708 Mar 26,2002 23:50:09
3709 Mar 26,2002 01:26:39
3710 Mar 26,2002 02:12:12
3710 Mar 26,2002 02:12:12
3711 Mar 26,2002 03:35:51
3712 Mar 26,2002 05:28:14
3713 Mar 26,2002 06:04:56
3714 Mar 26,2002 06:34:35
3715 Mar 26,2002 06:59:25
Distance (x10^3 m)
3716 Mar 26,2002 07:20:11
3717 Mar 26,2002 07:39:30
3718 Mar 26,2002 07:58:19
3719 Mar 26,2002 08:16:05
3720 Mar 26,2002 08:33:21
Draft statistics (m)
Mean = 0.36
Min = 0.13
Max = 0.74
StdDev = 0.22
Percentiles
5% 0.13
50% 0.27
95% 0.72
Ice = 15.3%
Open Water = 84.7%
No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site: Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/25 08:36:53.01 to 2002/03/26 08:33:21.33 GMT

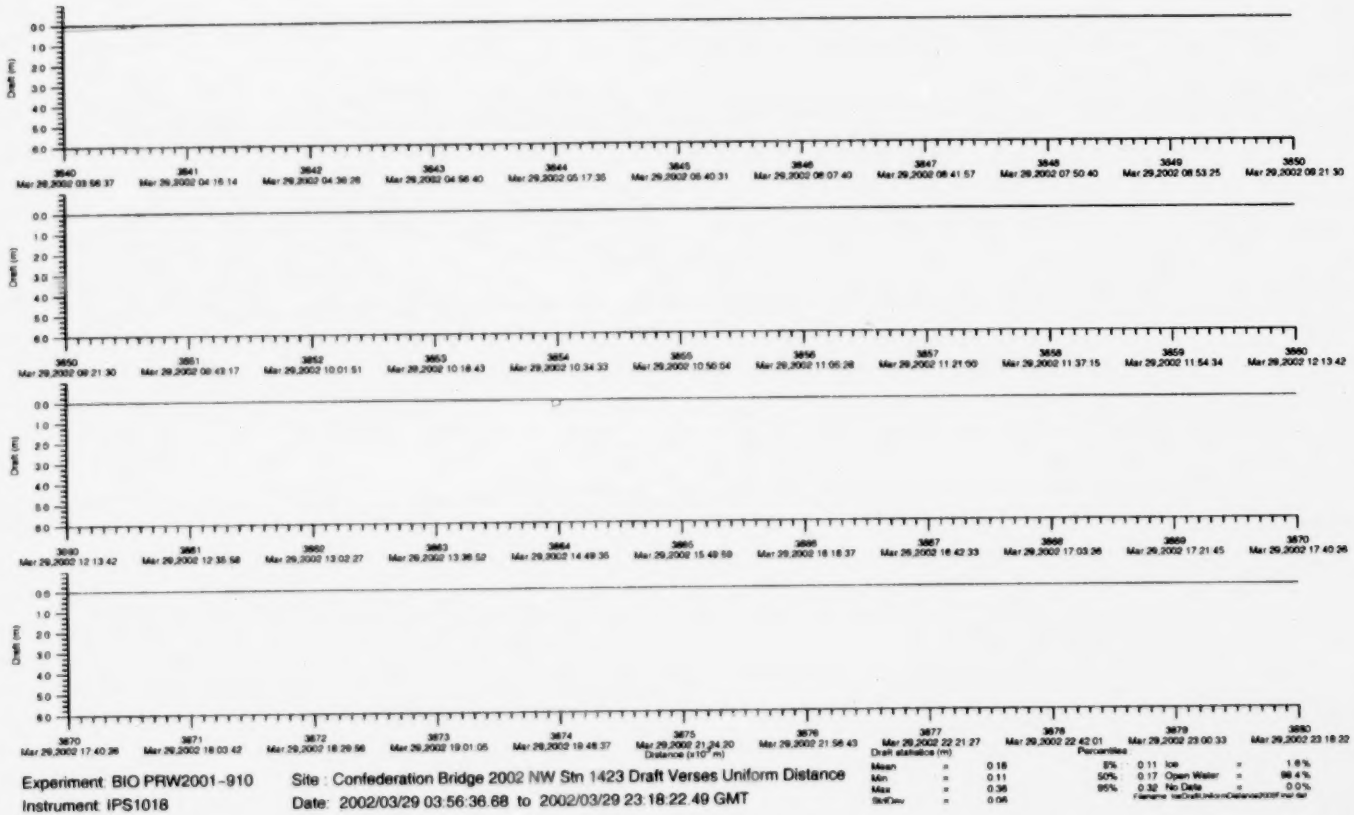

Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/26 08:33:21.33 to 2002/03/27 10:57:04.60 GMT

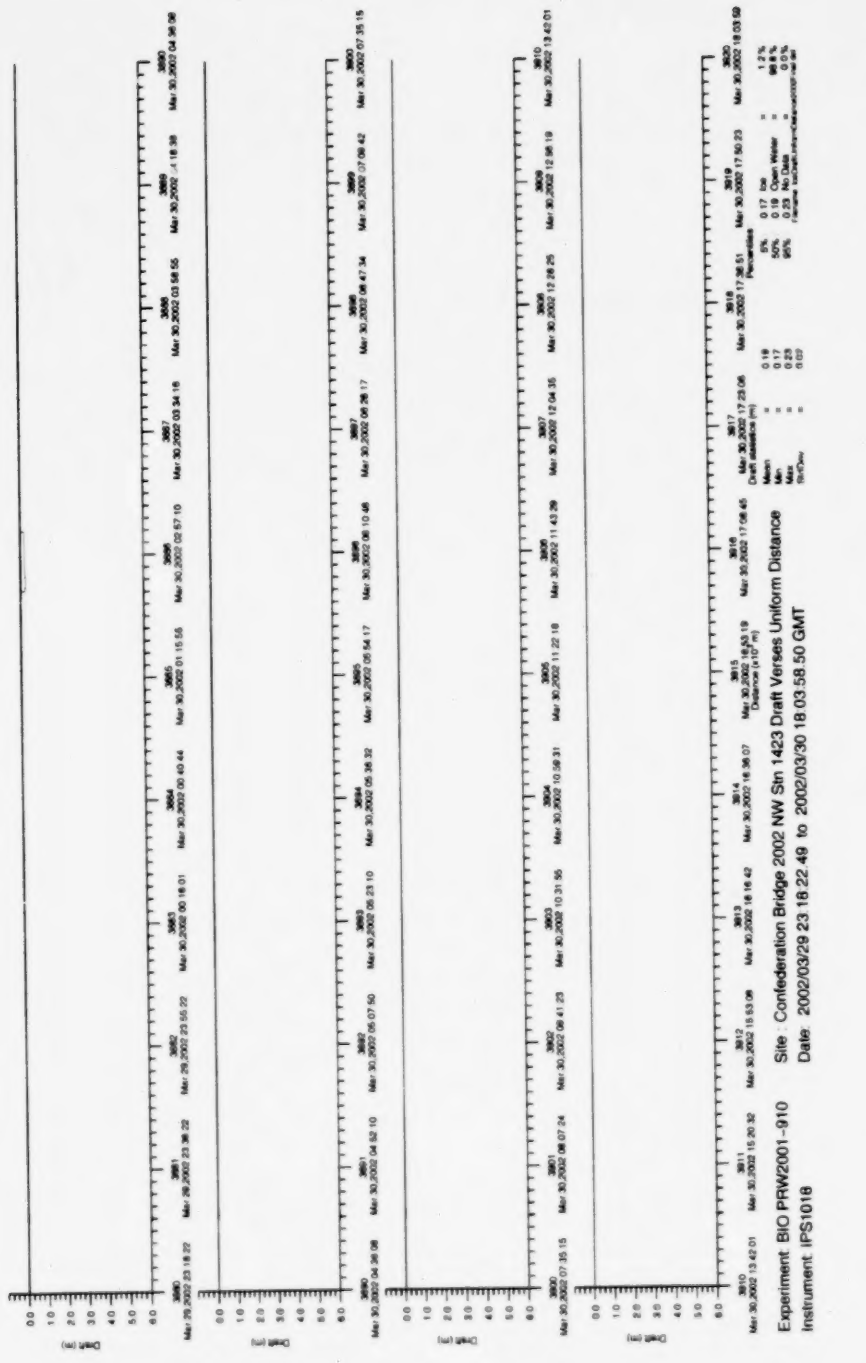

Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
3760 Mar 27,2002 10:57:05
3761 Mar 27,2002 11:48:47
3762 Mar 27,2002 12:26:03
3763 Mar 27,2002 12:44:31
3764 Mar 27,2002 13:03:04
3765 Mar 27,2002 13:22:45
3766 Mar 27,2002 13:40:24
3767 Mar 27,2002 13:58:41
3768 Mar 27,2002 14:12:10
3769 Mar 27,2002 14:27:04
3770 Mar 27,2002 14:41:43
3770 Mar 27,2002 14:41:43
3771 Mar 27,2002 14:56:16
3772 Mar 27,2002 15:10:55
3773 Mar 27,2002 15:25:44
3774 Mar 27,2002 15:40:52
3775 Mar 27,2002 15:57:06
3776 Mar 27,2002 16:13:46
3777 Mar 27,2002 16:31:45
3778 Mar 27,2002 16:50:26
3779 Mar 27,2002 17:11:26
3780 Mar 27,2002 17:34:43
3780 Mar 27,2002 17:34:43
3781 Mar 27,2002 18:03:23
3782 Mar 27,2002 18:45:52
3783 Mar 27,2002 19:57:06
3784 Mar 27,2002 20:40:11
3785 Mar 27,2002 21:09:43
3786 Mar 27,2002 21:35:02
3787 Mar 27,2002 21:58:24
3788 Mar 27,2002 22:22:53
3789 Mar 27,2002 22:50:19
3790 Mar 27,2002 23:21:41
3790 Mar 27,2002 23:21:41
3791 Mar 28,2002 00:05:24
3792 Mar 28,2002 01:54:54
3793 Mar 28,2002 02:44:57
3794 Mar 28,2002 03:15:04
3795 Mar 28,2002 03:41:32
Distance (x10³ m)
3796 Mar 28,2002 04:05:41
3797 Mar 28,2002 04:27:45
3798 Mar 28,2002 04:54:34
3799 Mar 28,2002 05:32:55
3800 Mar 28,2002 07:03:02
Draft statistics (m)
Mean = 0.41
Min = 0.25
Max = 0.53
StdDev = 0.06
Percentiles
5% 0.31 Ice = 20.8%
50% 0.42 Open Water = 79.2%
95% 0.49 No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/27 10:57:04.60 to 2002/03/28 07:03:01.78 GMT



Experiment: BIO PRW2001-910
Instrument: IPS1018

Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/28 07:03:01.78 to 2002/03/29 03:56:36.68 GMT


Draft (m)
0.0
1.0
2.0
3.0
4.0
5.0
6.0
3640 Mar 29,2002 03:56:37
3641 Mar 29,2002 04:16:14
3642 Mar 29,2002 04:36:28
3643 Mar 29,2002 04:56:40
3644 Mar 29,2002 05:17:35
3645 Mar 29,2002 05:40:31
3646 Mar 29,2002 06:07:40
3647 Mar 29,2002 06:41:57
3648 Mar 29,2002 07:50:40
3649 Mar 29,2002 08:53:25
3650 Mar 29,2002 09:21:30
3650 Mar 29,2002 09:21:30
3651 Mar 29,2002 09:43:17
3652 Mar 29,2002 10:01:51
3653 Mar 29,2002 10:18:43
3654 Mar 29,2002 10:34:33
3655 Mar 29,2002 10:50:54
3656 Mar 29,2002 11:06:28
3657 Mar 29,2002 11:21:00
3658 Mar 29,2002 11:37:15
3659 Mar 29,2002 11:54:34
3660 Mar 29,2002 12:13:42
3660 Mar 29,2002 12:13:42
3661 Mar 29,2002 12:33:58
3662 Mar 29,2002 13:02:27
3663 Mar 29,2002 13:36:52
3664 Mar 29,2002 14:49:35
3665 Mar 29,2002 15:49:59
3666 Mar 29,2002 16:18:37
3667 Mar 29,2002 16:42:33
3668 Mar 29,2002 17:03:26
3669 Mar 29,2002 17:21:45
3670 Mar 29,2002 17:40:26
3670 Mar 29,2002 17:40:26
3671 Mar 29,2002 18:03:42
3672 Mar 29,2002 18:29:56
3673 Mar 29,2002 19:01:05
3674 Mar 29,2002 19:46:37
3675 Mar 29,2002 21:24:20
3676 Mar 29,2002 21:56:43
3677 Mar 29,2002 22:21:27
3678 Mar 29,2002 22:42:01
3679 Mar 29,2002 23:00:33
3680 Mar 29,2002 23:18:22
Distance (x10^-4 m)
Draft statistics (m)
Mean = 0.18
Min = 0.11
Max = 0.36
StdDev = 0.06
Percentiles
5% 0.11 Ice = 1.6%
50% 0.17 Open Water = 98.4%
95% 0.32 No Data = 0.0%
Experiment: BIO PRW2001-910
Instrument: IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/29 03:56:36.68 to 2002/03/29 23:18:22.49 GMT

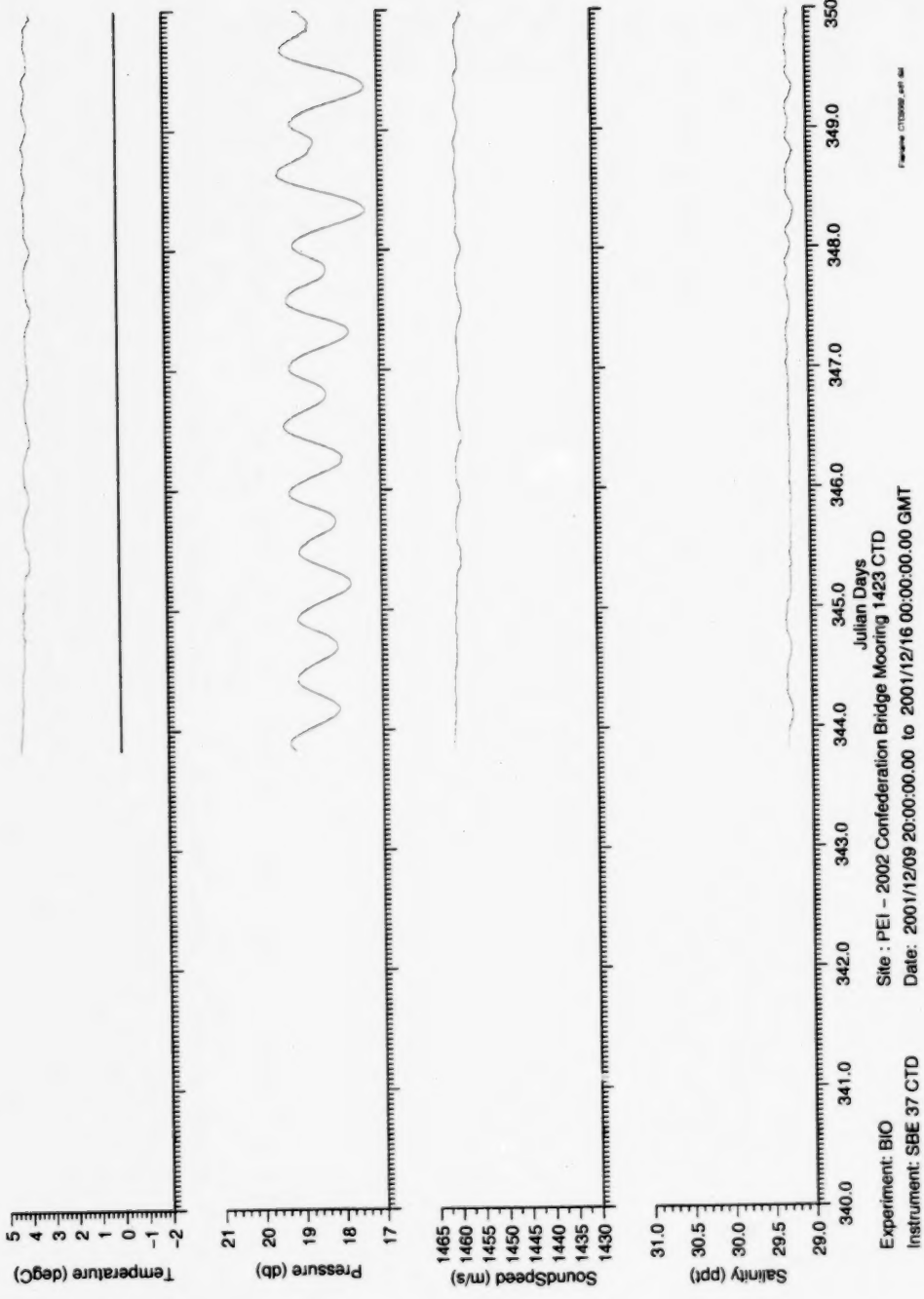

Experiment BIO PRW2001-910
Instrument IPS1018
Site : Confederation Bridge 2002 NW Stn 1423 Draft Verses Uniform Distance
Date: 2002/03/29 23 16 22 49 to 2002/03/30 18 03 58 50 GMT

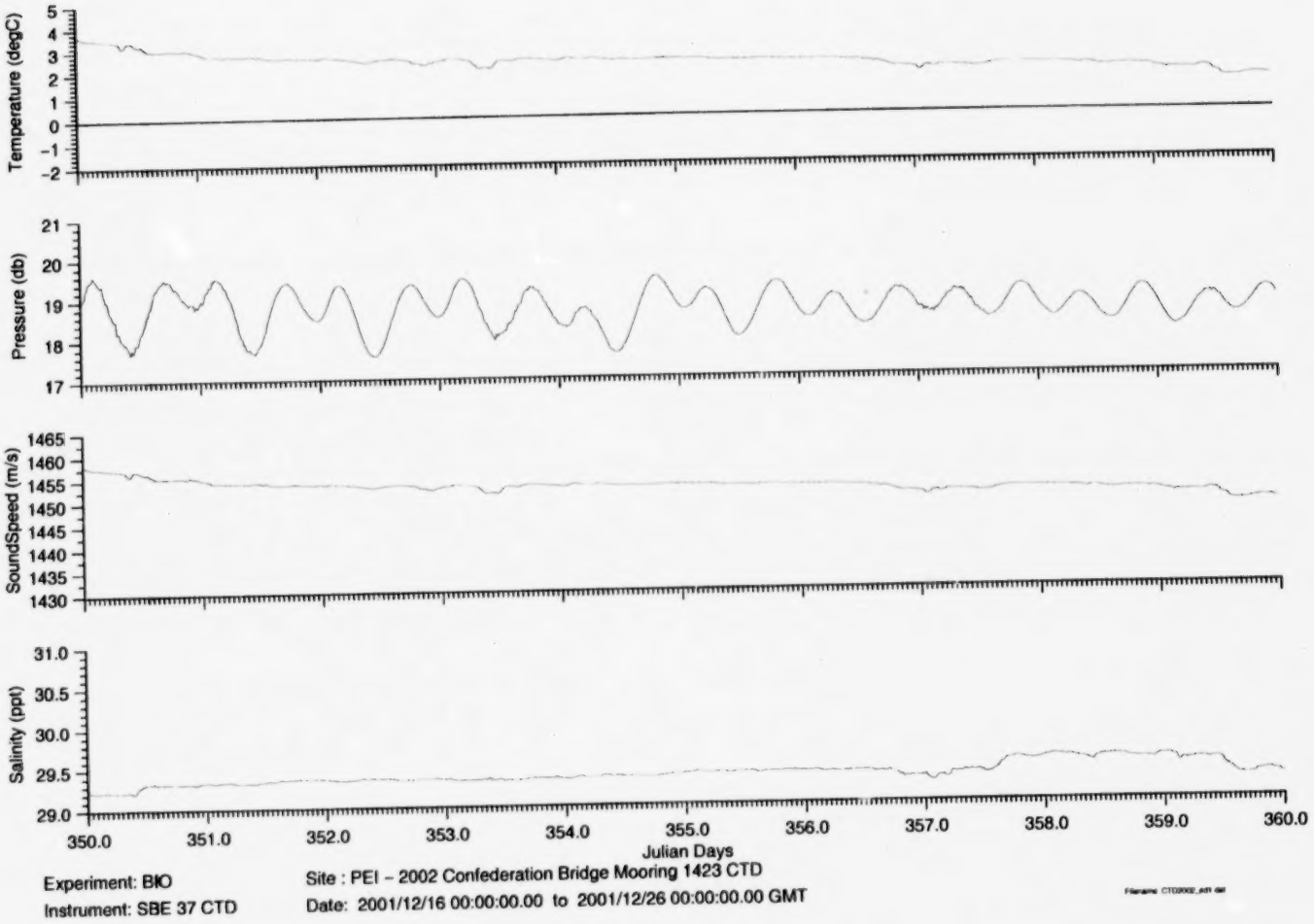
6.2 MicroCAT CTD

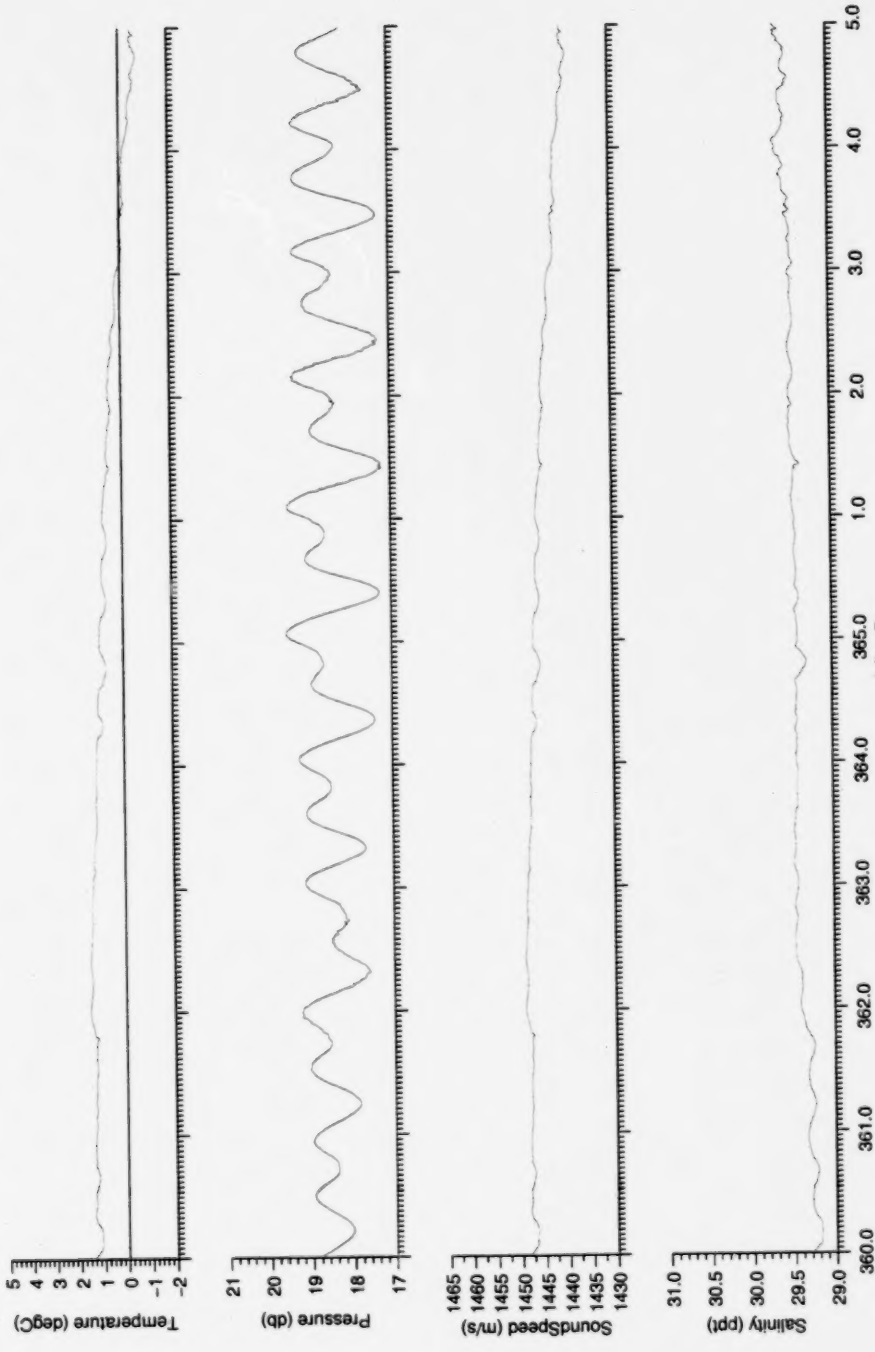
The CTD was deployed on mooring 1423 with the ADCP on the Northwest side of the Confederation Bridge from December 9th 2001 until May1st 2002 at 46° 12.483'N, 63° 45.487'W. The MicroCAT CTD was below the second float at a water depth of 18m.

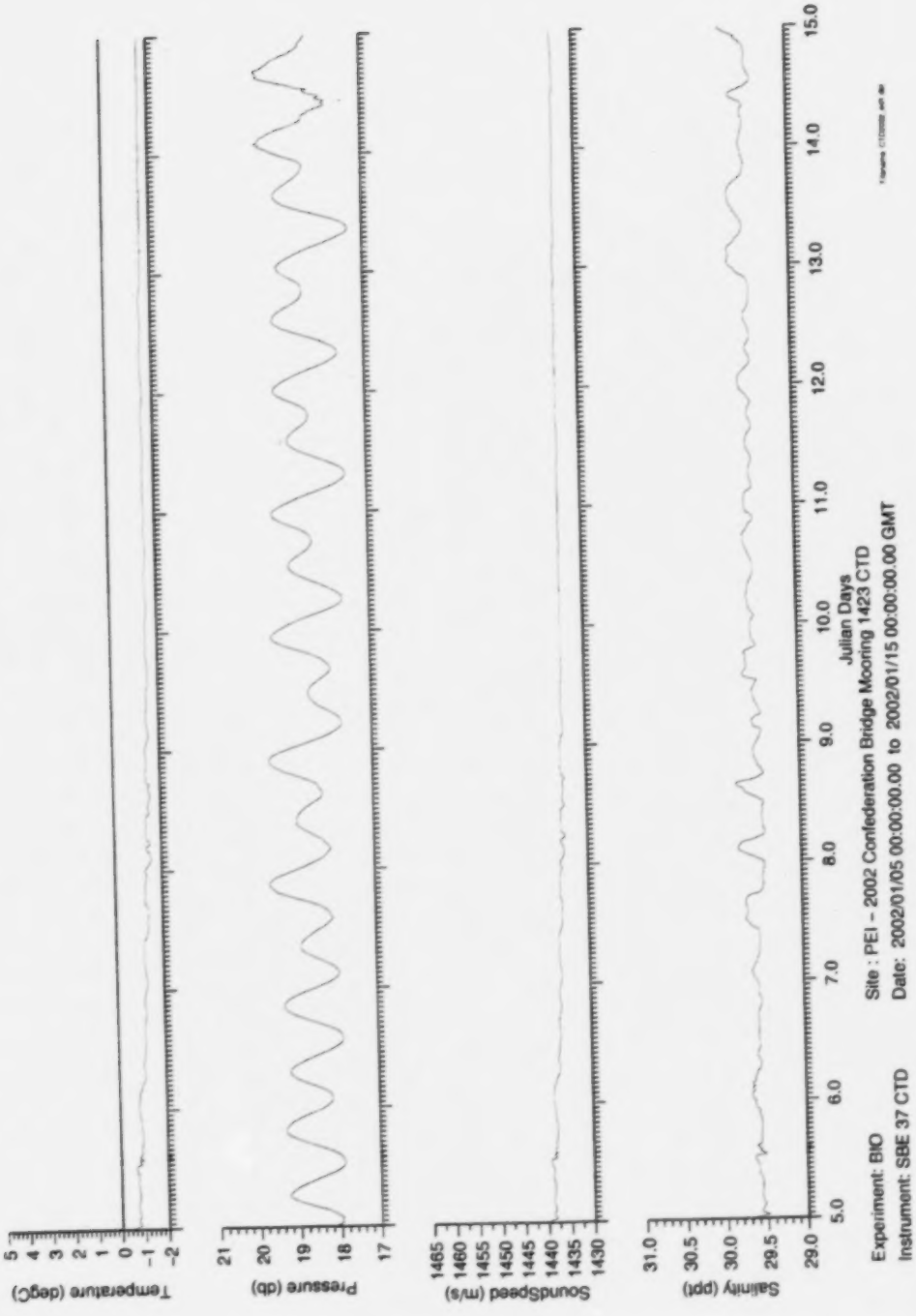
Data from the CTD were converted to ASL format.

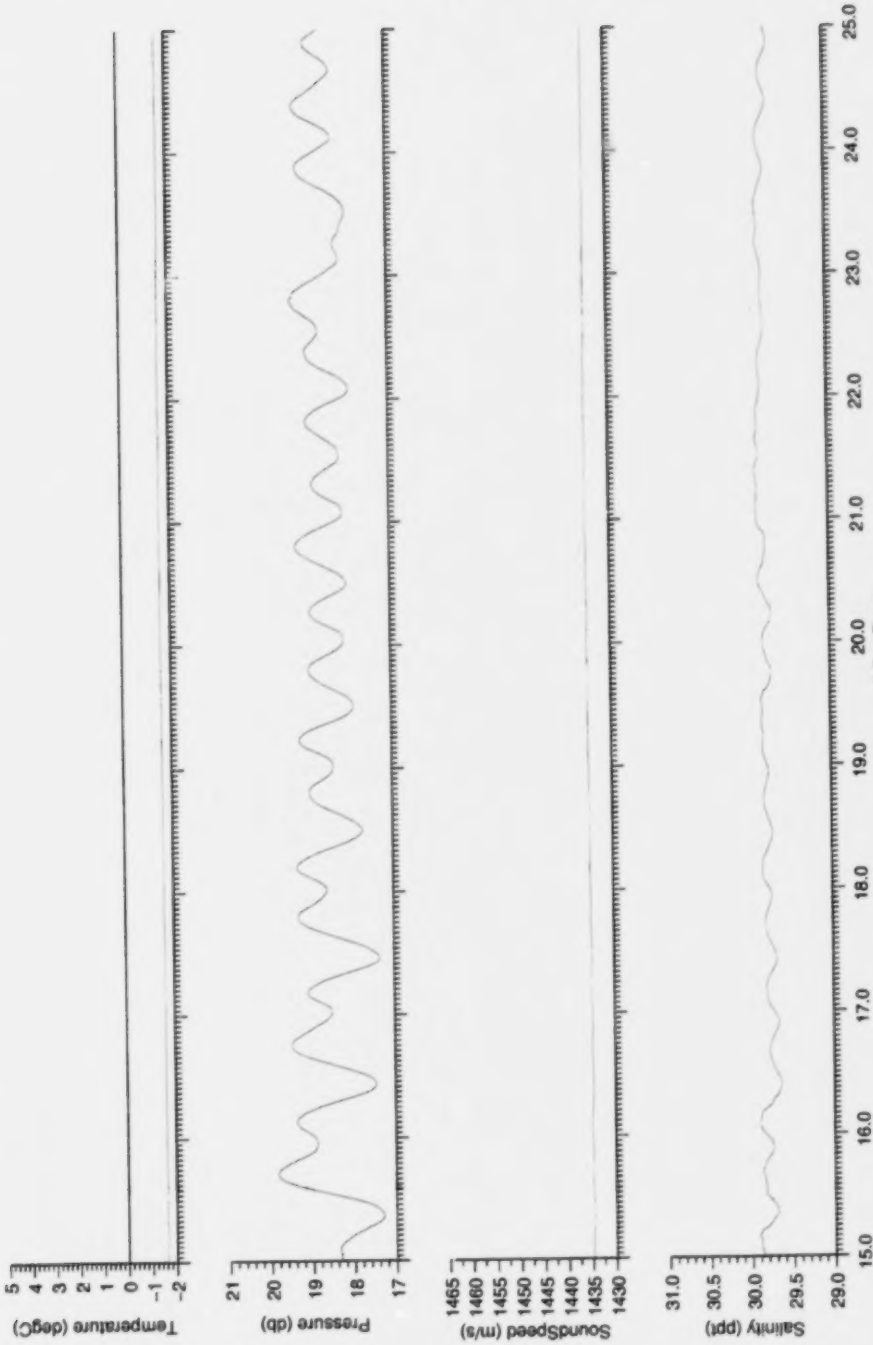
The following plots of CTD data display temperature, salinity, pressure and sound velocity. Salinity and sound velocity are computed data.

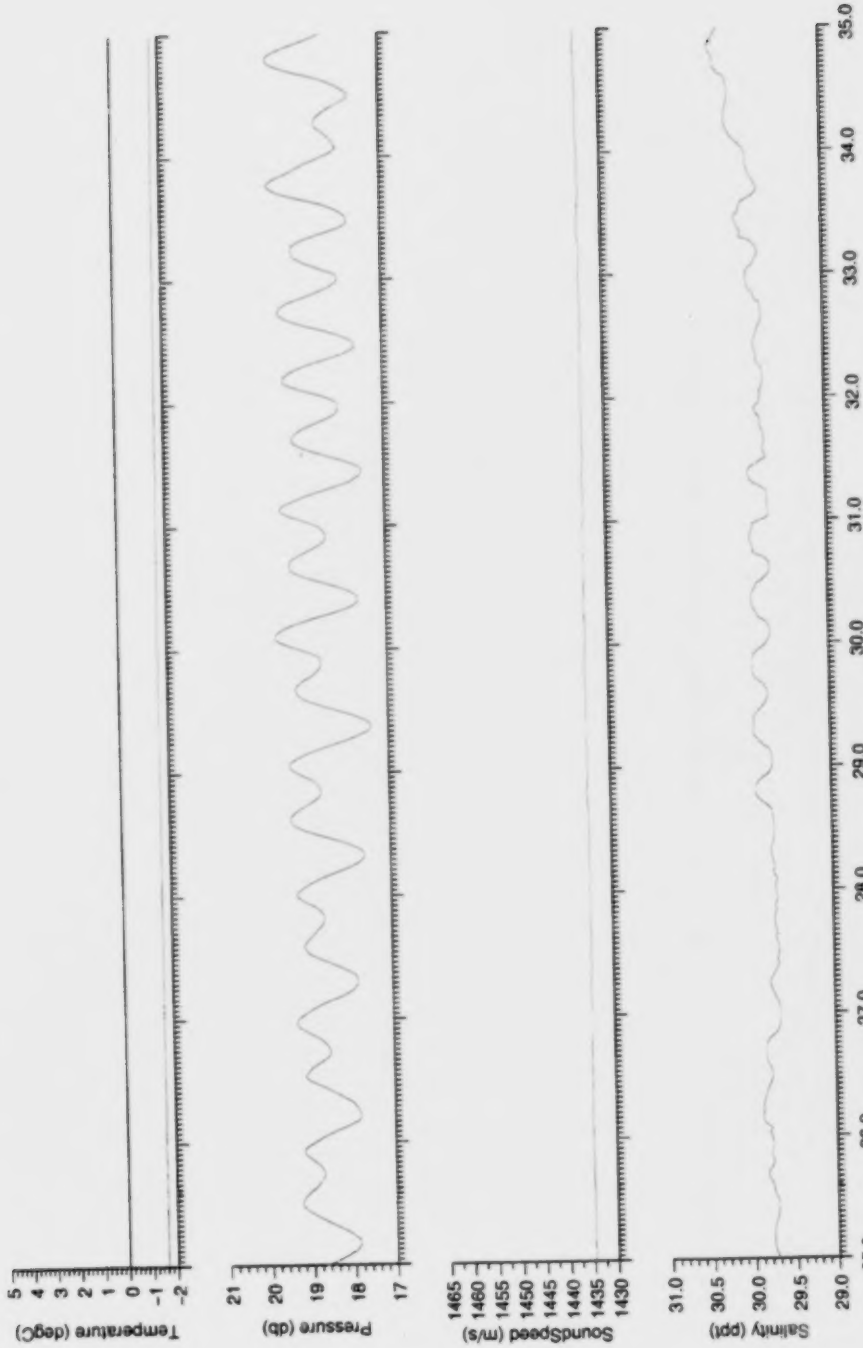

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
340.0
341.0
342.0
343.0
344.0
345.0
346.0
347.0
348.0
349.0
350.0
Julian Days
Experiment: BIO
Site : PEI – 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2001/12/09 20:00:00.00 to 2001/12/16 00:00:00.00 GMT

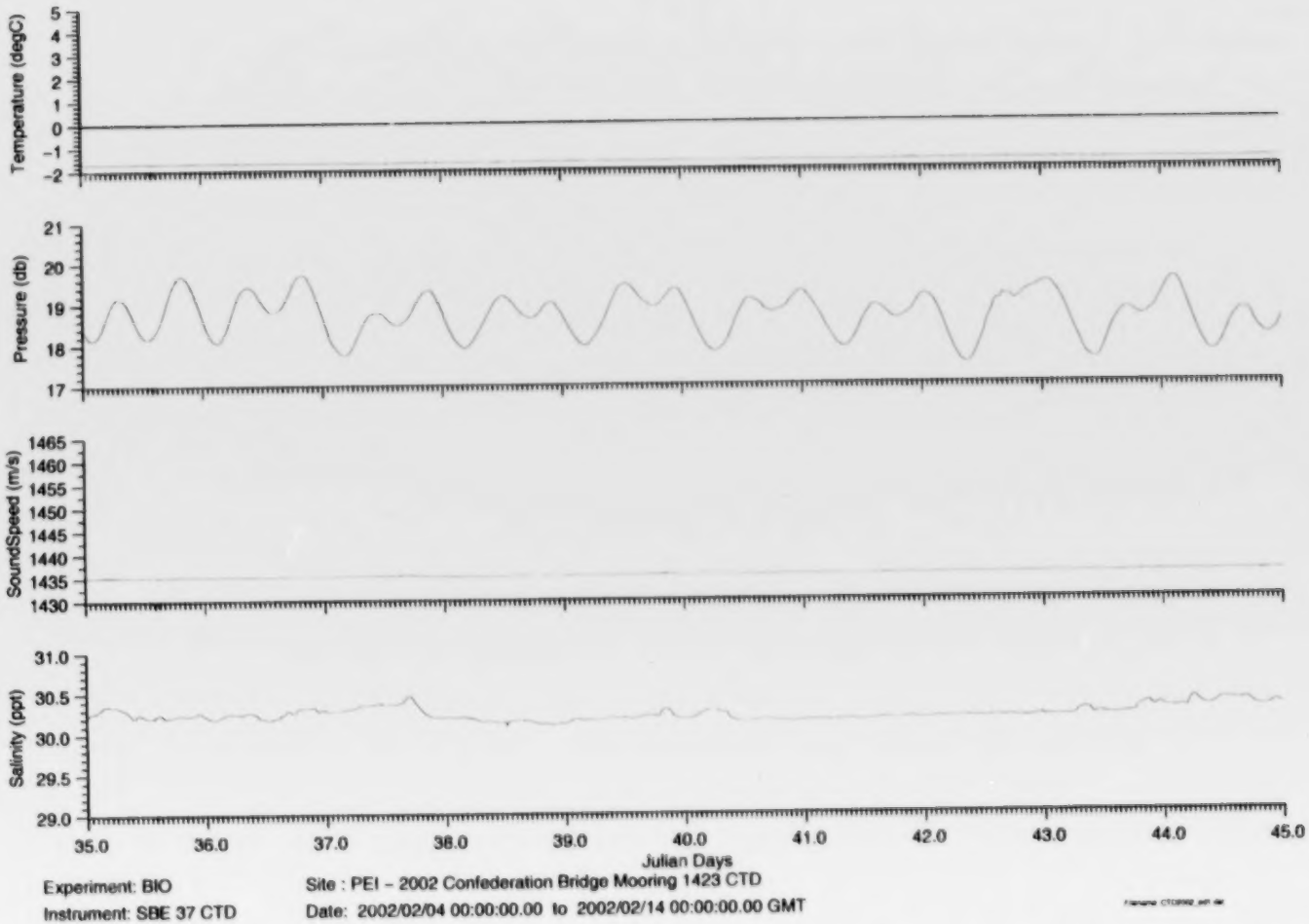

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
350.0
351.0
352.0
353.0
354.0
355.0
356.0
357.0
358.0
359.0
360.0
Julian Days
Experiment: BIO
Instrument: SBE 37 CTD
Site : PEI – 2002 Confederation Bridge Mooring 1423 CTD
Date: 2001/12/16 00:00:00.00 to 2001/12/26 00:00:00.00 GMT

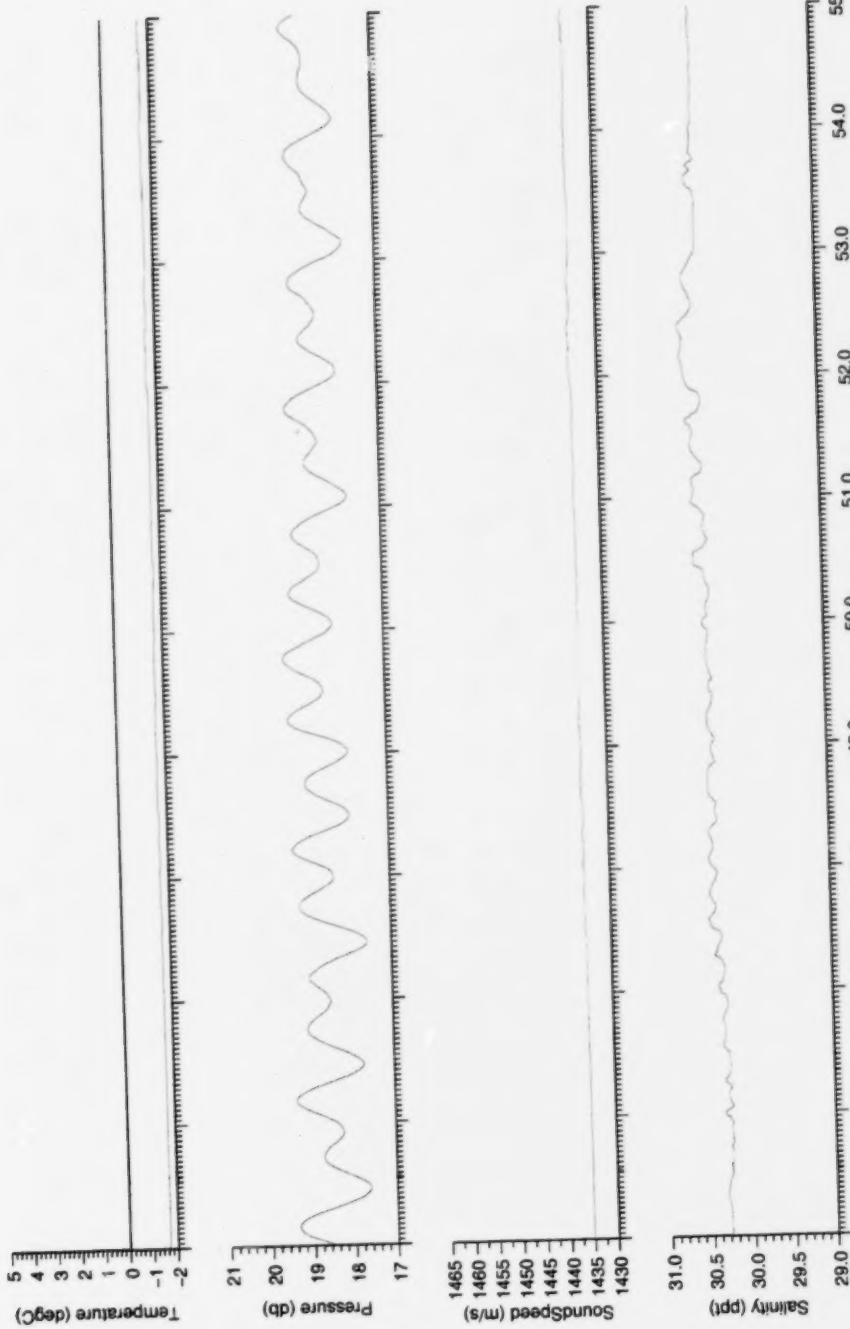

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
360.0
361.0
362.0
363.0
364.0
365.0
Julian Days
1.0
2.0
3.0
4.0
5.0
Experiment: BIO
Site : PEI – 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2001/12/26 00:00:00.00 to 2002/01/05 00:00:00.00 GMT

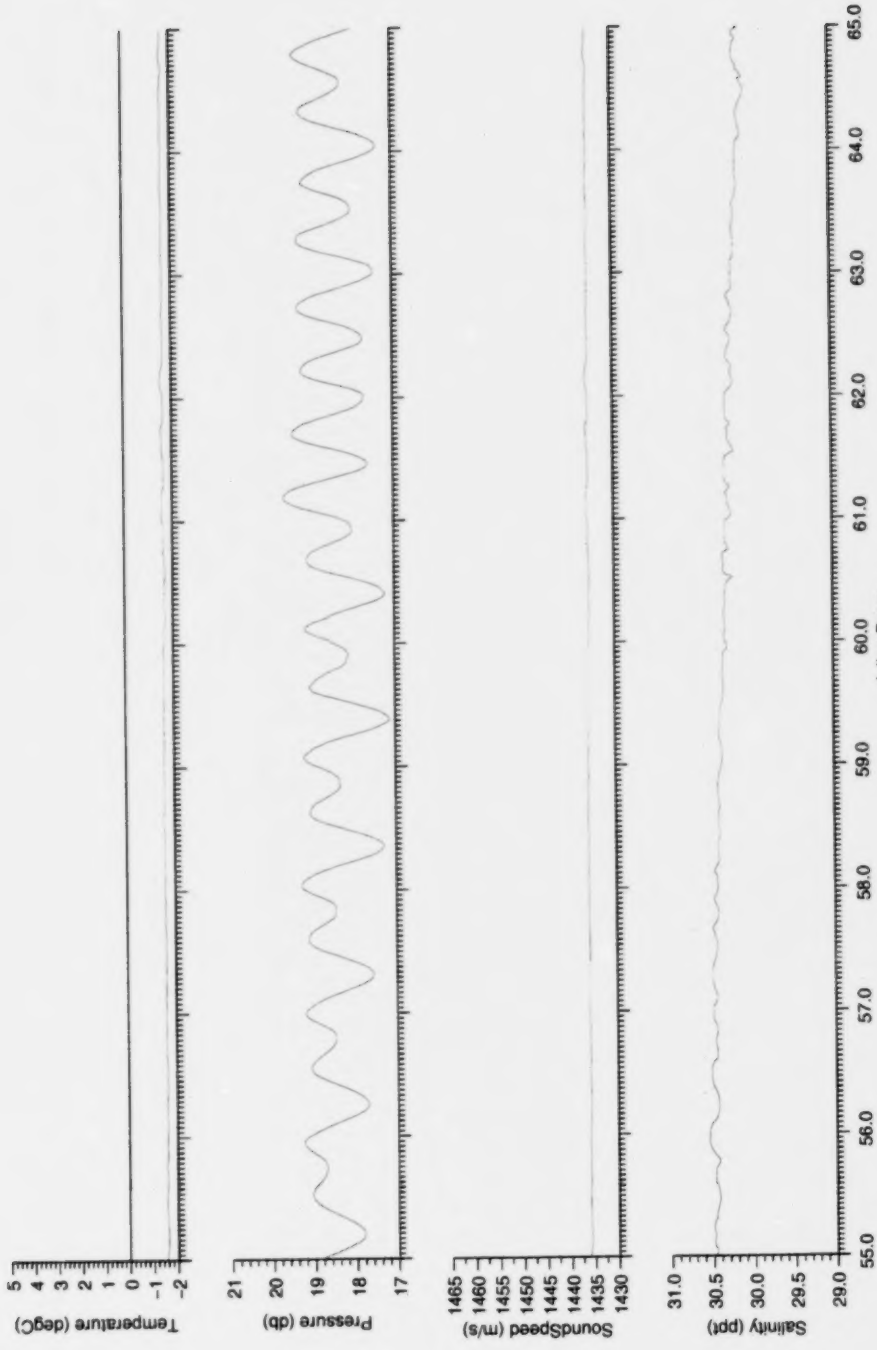

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
Julian Days
Experiment: BIO
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2002/01/05 00:00:00.00 to 2002/01/15 00:00:00.00 GMT

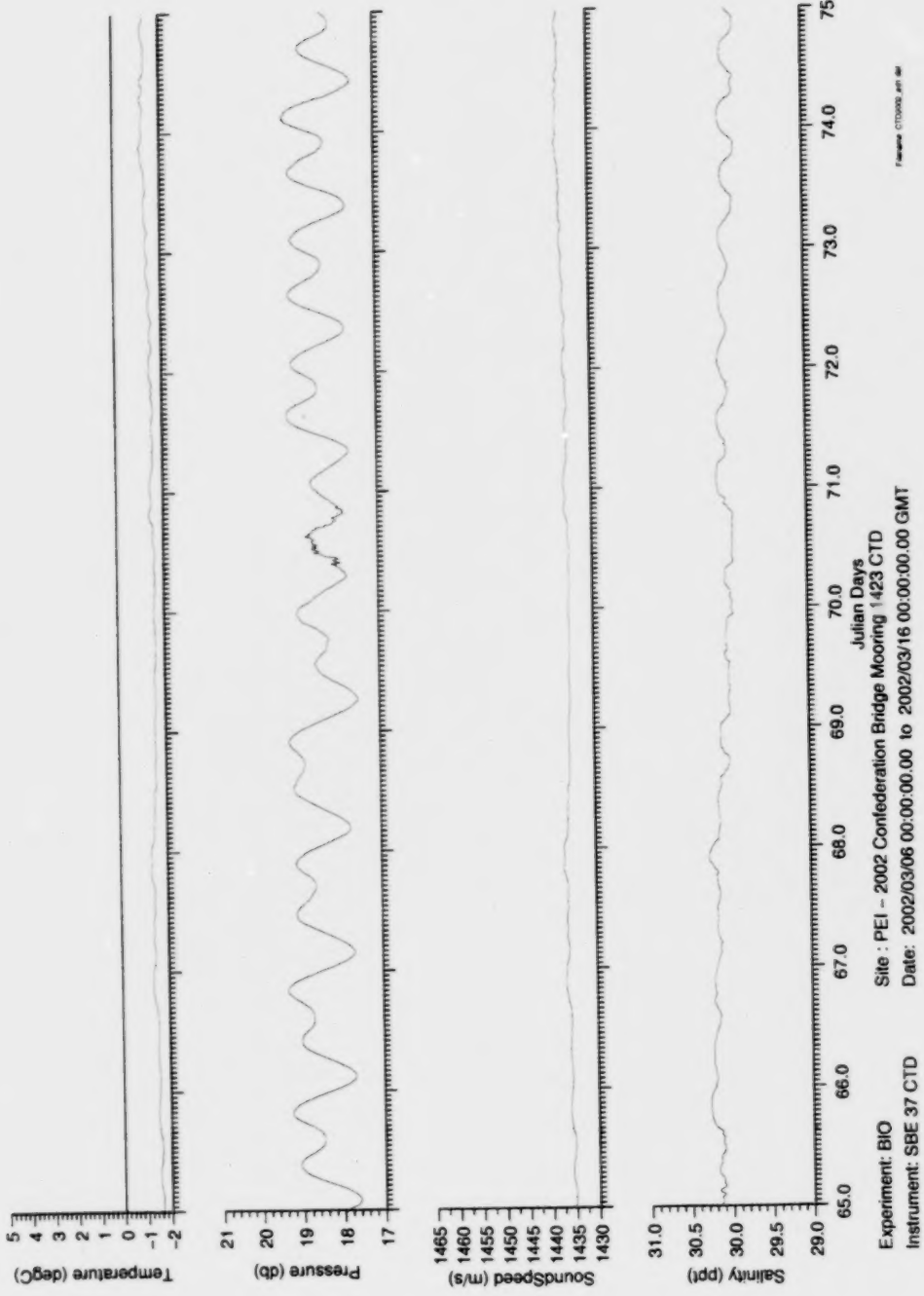

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
15.0
16.0
17.0
18.0
19.0
20.0
21.0
22.0
23.0
24.0
25.0
Julian Days
Experiment: BIO
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2002/01/15 00:00:00.00 to 2002/01/25 00:00:00.00 GMT

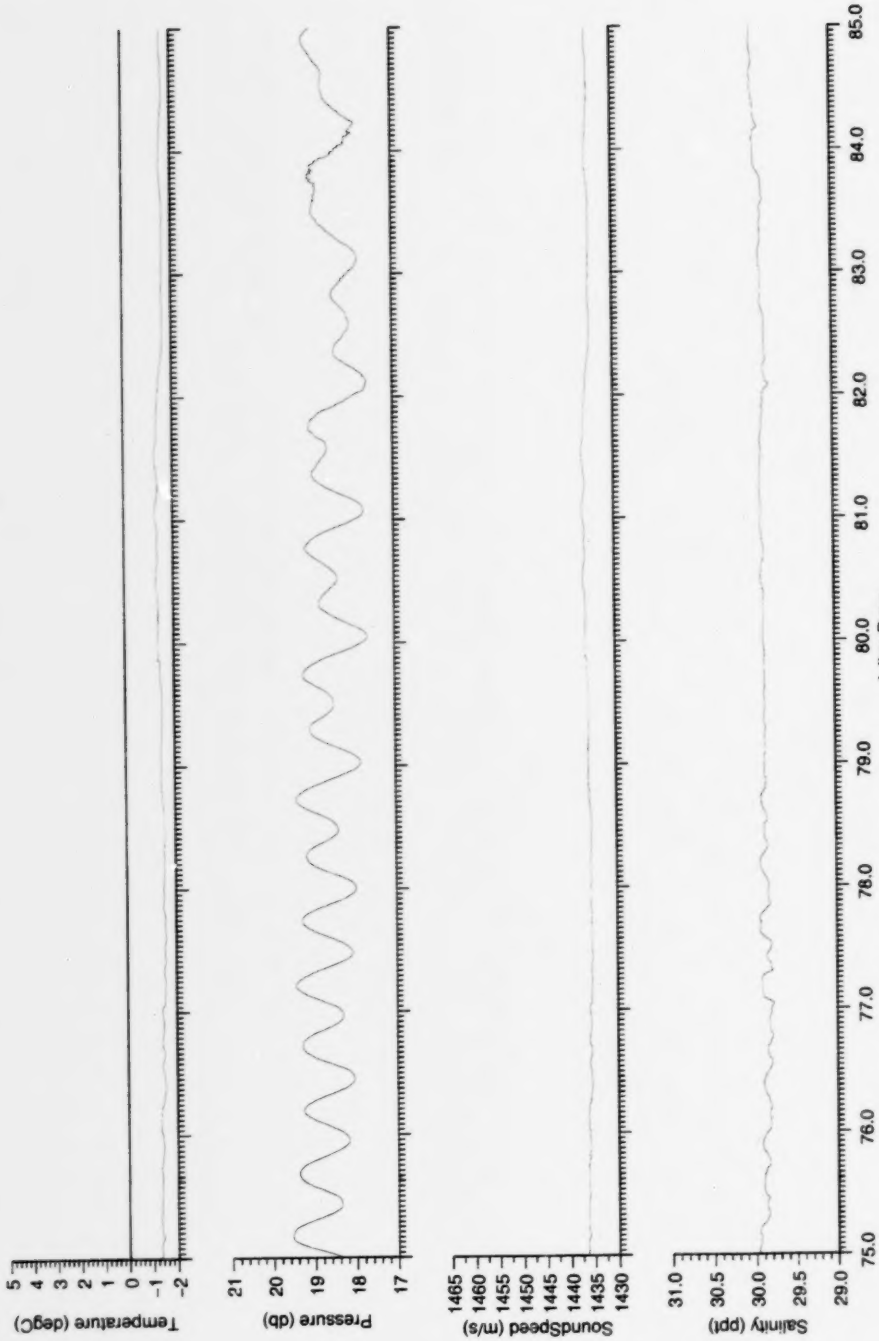

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
25.0
26.0
27.0
28.0
29.0
30.0
31.0
32.0
33.0
34.0
35.0
Julian Days
Experiment: BIO
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2002/01/25 00:00:00.00 to 2002/02/04 00:00:00.00 GMT

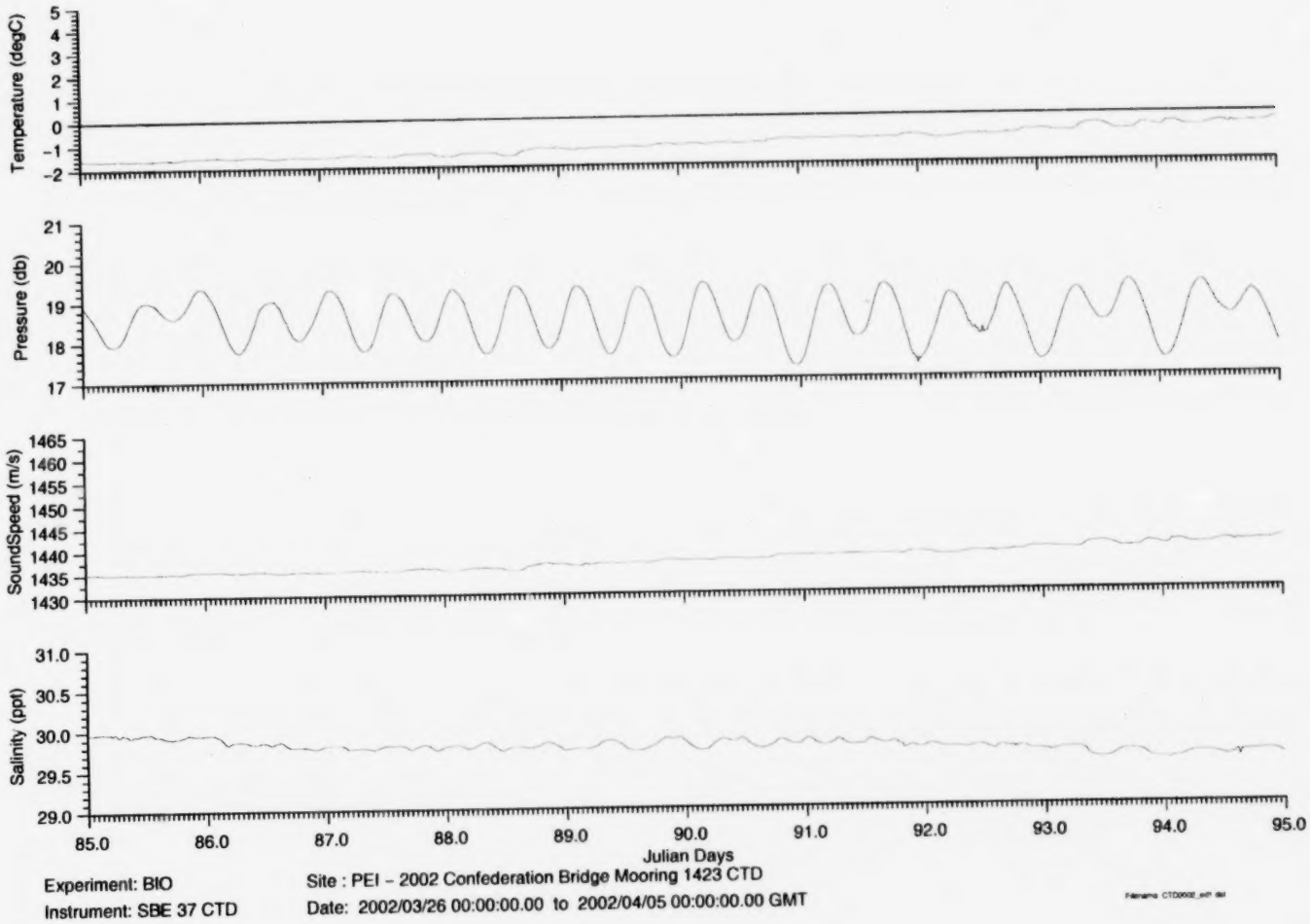

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
35.0
36.0
37.0
38.0
39.0
40.0
41.0
42.0
43.0
44.0
45.0
Julian Days
Experiment: BIO
Instrument: SBE 37 CTD
Site : PEI – 2002 Confederation Bridge Mooring 1423 CTD
Date: 2002/02/04 00:00:00.00 to 2002/02/14 00:00:00.00 GMT

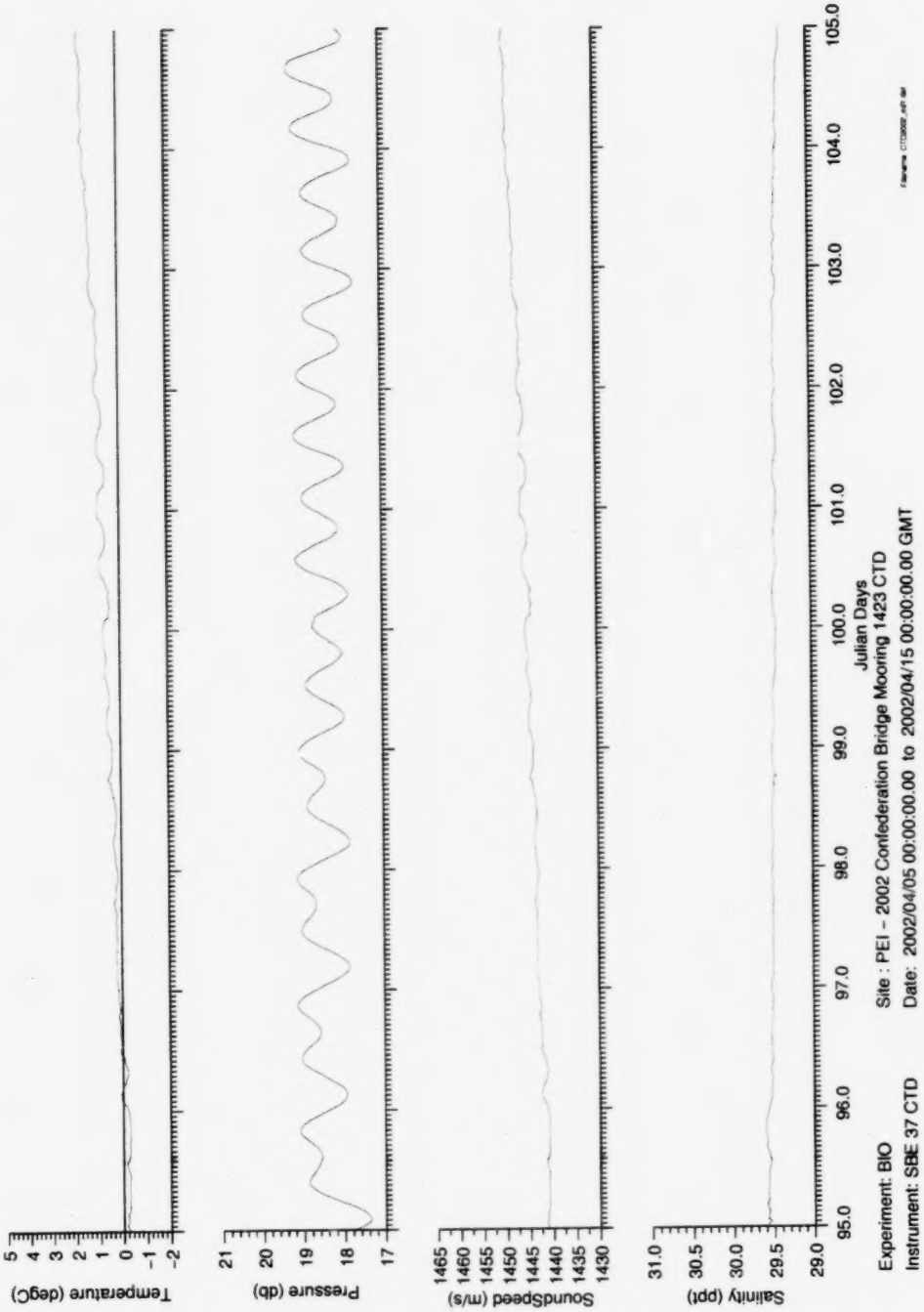

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
45.0
46.0
47.0
48.0
49.0
50.0
51.0
52.0
53.0
54.0
55.0
Julian Days
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Date: 2002/02/14 00:00:00.00 to 2002/02/24 00:00:00.00 GMT
Experiment: BIO
Instrument: SBE 37 CTD

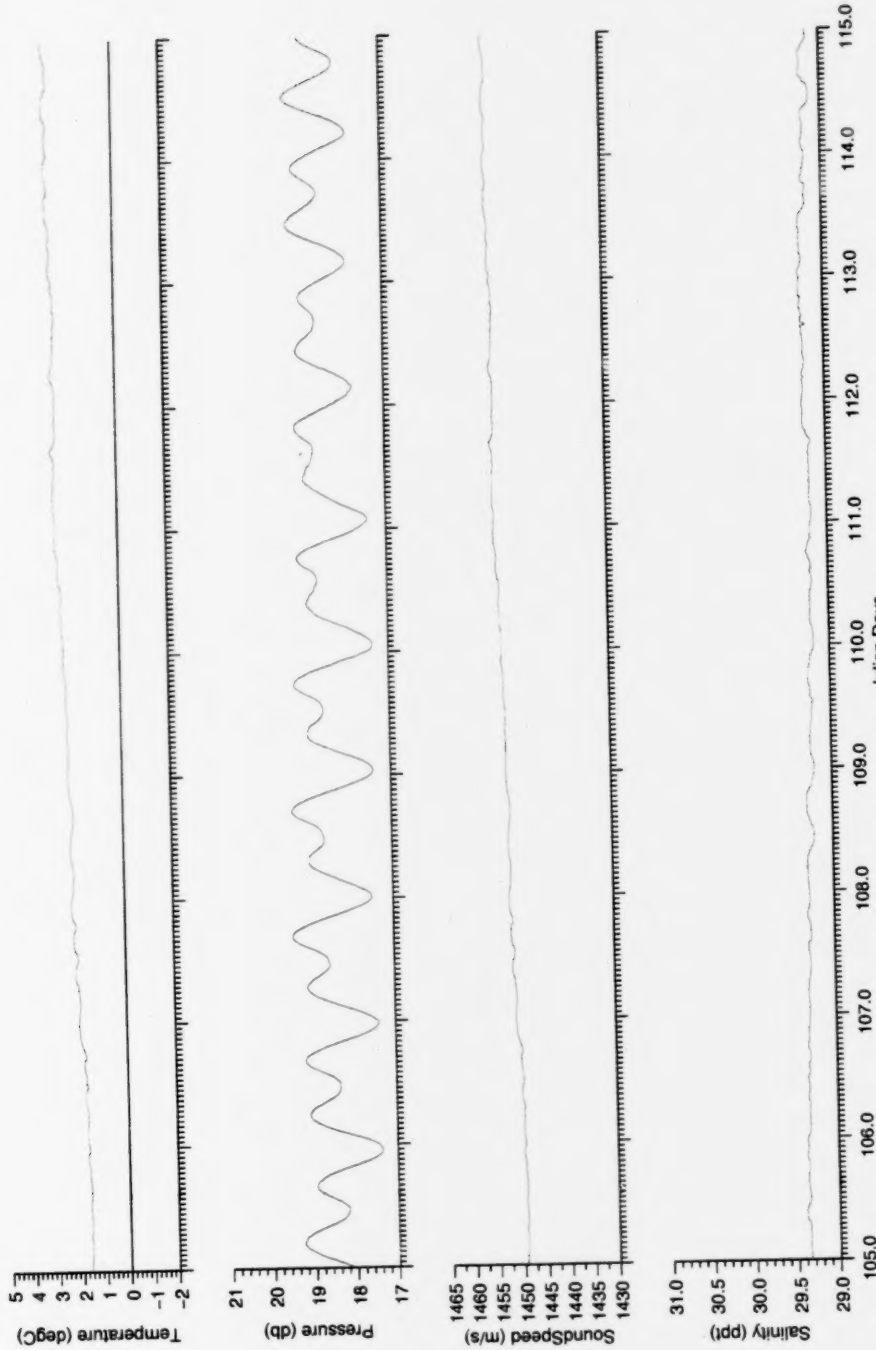

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
55.0
56.0
57.0
58.0
59.0
60.0
61.0
62.0
63.0
64.0
65.0
Julian Days
Experiment: BIO
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2002/02/24 00:00:00.00 to 2002/03/06 00:00:00.00 GMT

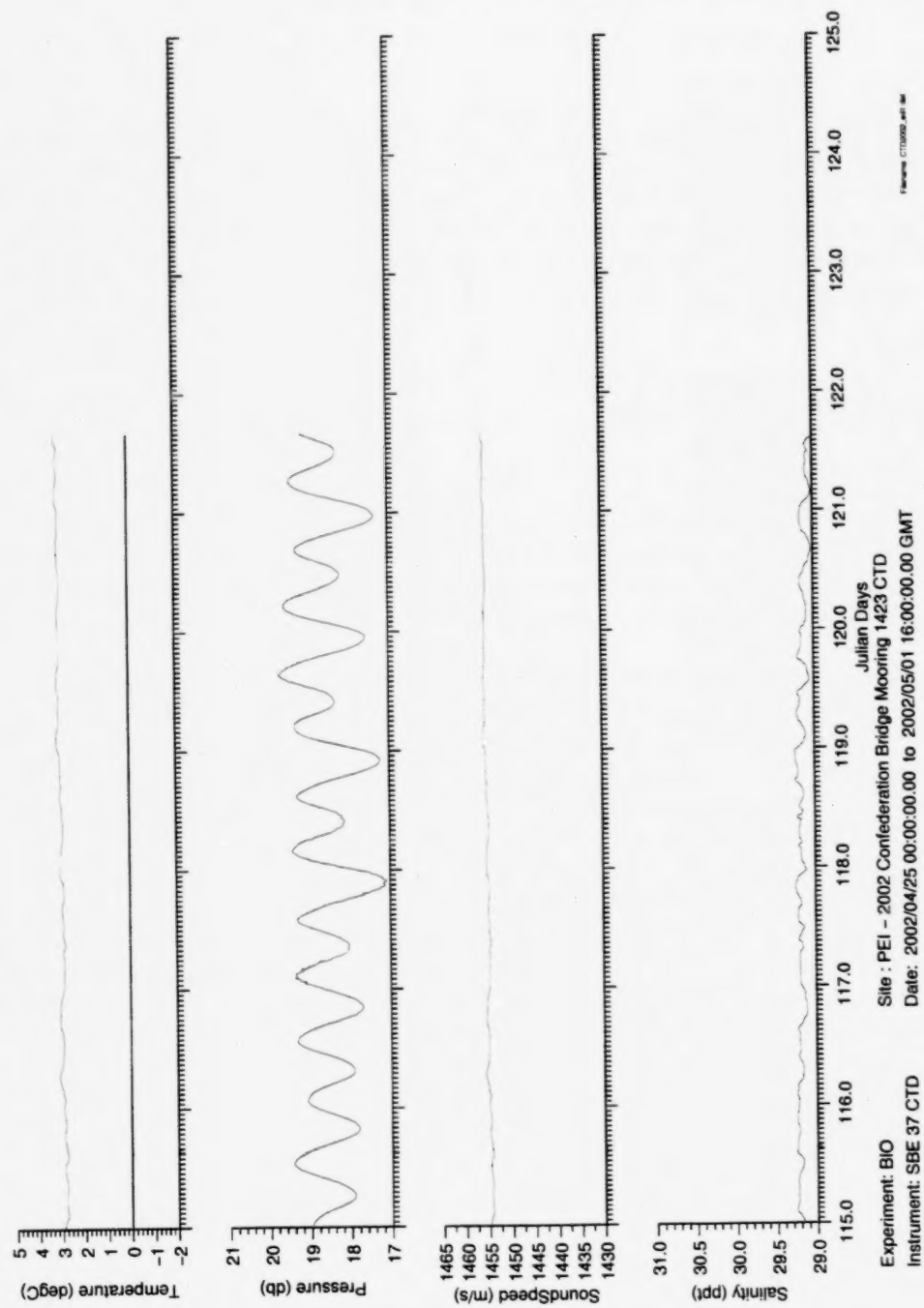

Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
65.0
66.0
67.0
68.0
69.0
70.0
71.0
72.0
73.0
74.0
75.0
Julian Days
Site : PEI – 2002 Confederation Bridge Mooring 1423 CTD
Date: 2002/03/06 00:00:00.00 to 2002/03/16 00:00:00.00 GMT
Experiment: BIO
Instrument: SBE 37 CTD


Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
75.0
76.0
77.0
78.0
79.0
80.0
81.0
82.0
83.0
84.0
85.0
Julian Days
Experiment: BIO
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2002/03/16 00:00:00.00 to 2002/03/26 00:00:00.00 GMT


Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
85.0
86.0
87.0
88.0
89.0
90.0
91.0
92.0
93.0
94.0
95.0
Julian Days
Experiment: BIO
Instrument: SBE 37 CTD
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Date: 2002/03/26 00:00:00.00 to 2002/04/05 00:00:00.00 GMT


Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
95.0
96.0
97.0
98.0
99.0
100.0
101.0
102.0
103.0
104.0
105.0
Julian Days
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Date: 2002/04/05 00:00:00.00 to 2002/04/15 00:00:00.00 GMT
Experiment: BIO
Instrument: SBE 37 CTD


Temperature (degC)
5
4
3
2
1
0
−1
−2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
105.0
106.0
107.0
108.0
109.0
110.0
111.0
112.0
113.0
114.0
115.0
Julian Days
Site : PEI – 2002 Confederation Bridge Mooring 1423 CTD
Date: 2002/04/15 00:00:00.00 to 2002/04/25 00:00:00.00 GMT
Experiment: BIO
Instrument: SBE 37 CTD


Temperature (degC)
5
4
3
2
1
0
-1
-2
Pressure (db)
21
20
19
18
17
SoundSpeed (m/s)
1465
1460
1455
1450
1445
1440
1435
1430
Salinity (ppt)
31.0
30.5
30.0
29.5
29.0
115.0
116.0
117.0
118.0
119.0
120.0
121.0
122.0
123.0
124.0
125.0
Julian Days
Experiment: BIO
Site : PEI - 2002 Confederation Bridge Mooring 1423 CTD
Instrument: SBE 37 CTD
Date: 2002/04/25 00:00:00.00 to 2002/05/01 16:00:00.00 GMT

6.3 IPS 1018 Northwest Mooring 1424

Unfortunately, the IPS on this mooring didn't work properly. This problem occurred because the MOSFET driver on the transmitter failed. There was not enough transmitter energy to range back to the instrument when there was an ice target. Null returns were recorded when ice was present. This was due to the lower ice target strength which is typically reduced by 20 dB from that of the open water / air interface.

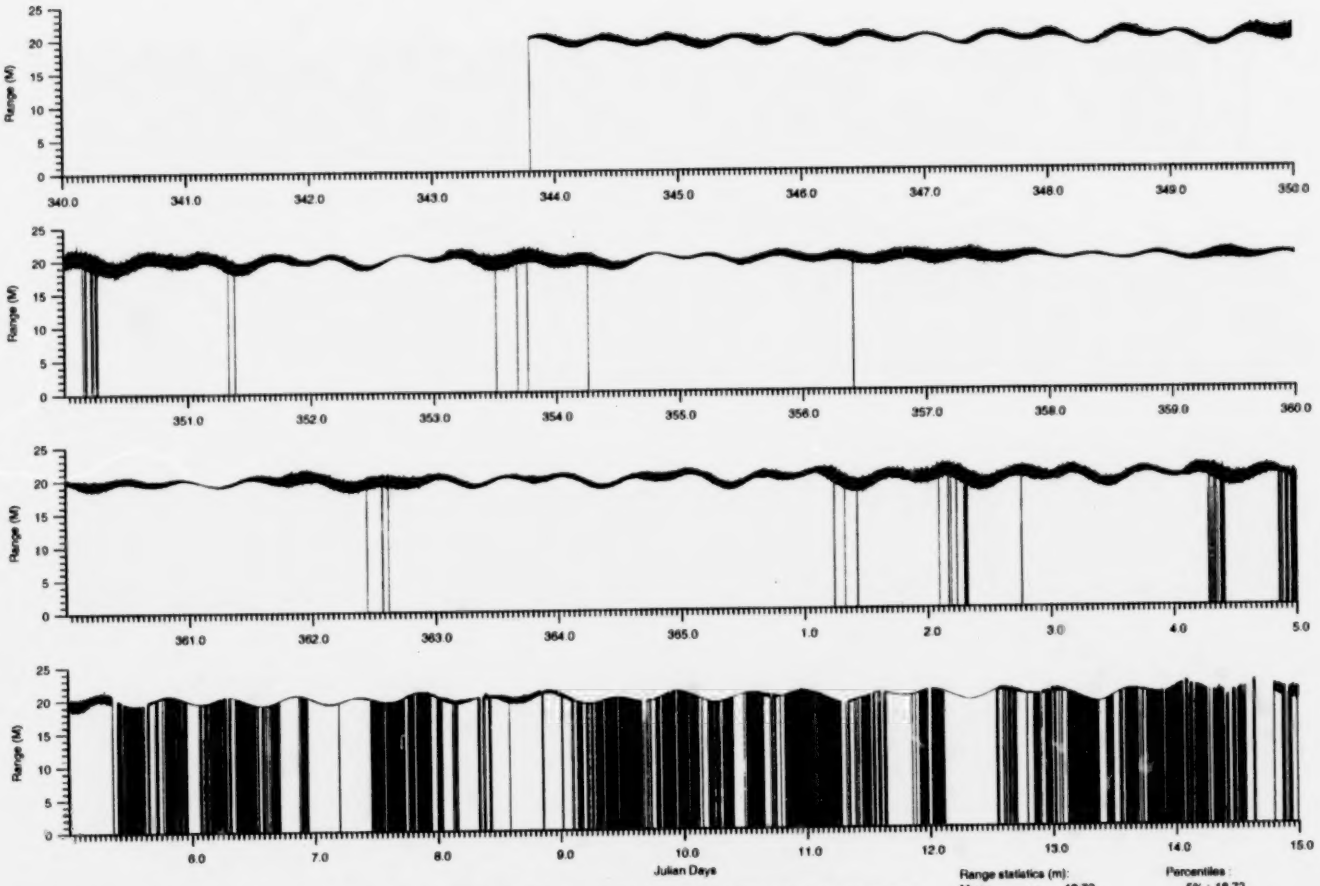
6.3.1 IPS Range Data

Range data is presented for IPS instrument 1018, mooring number 1424, on the Northwest side of Bridge Pier 23 at 46° 12.441''N and 63° 45.440'W in water depth of 20m. It was deployed on December 7th, 2001 and recovered on May 2nd, 2002 using divers from a fishing vessel.

The range data are presented next in this report. A range check between the values of 4 and 25 meters has been performed and the data flagged. The flagged data appear as zeros on the plots. The data have a sample interval of approximately 1 second. A single speed of sound correction of 1435.65 estimated from the MicroCAT CTD moored with the ADCP was applied at this point for the entire deployment.

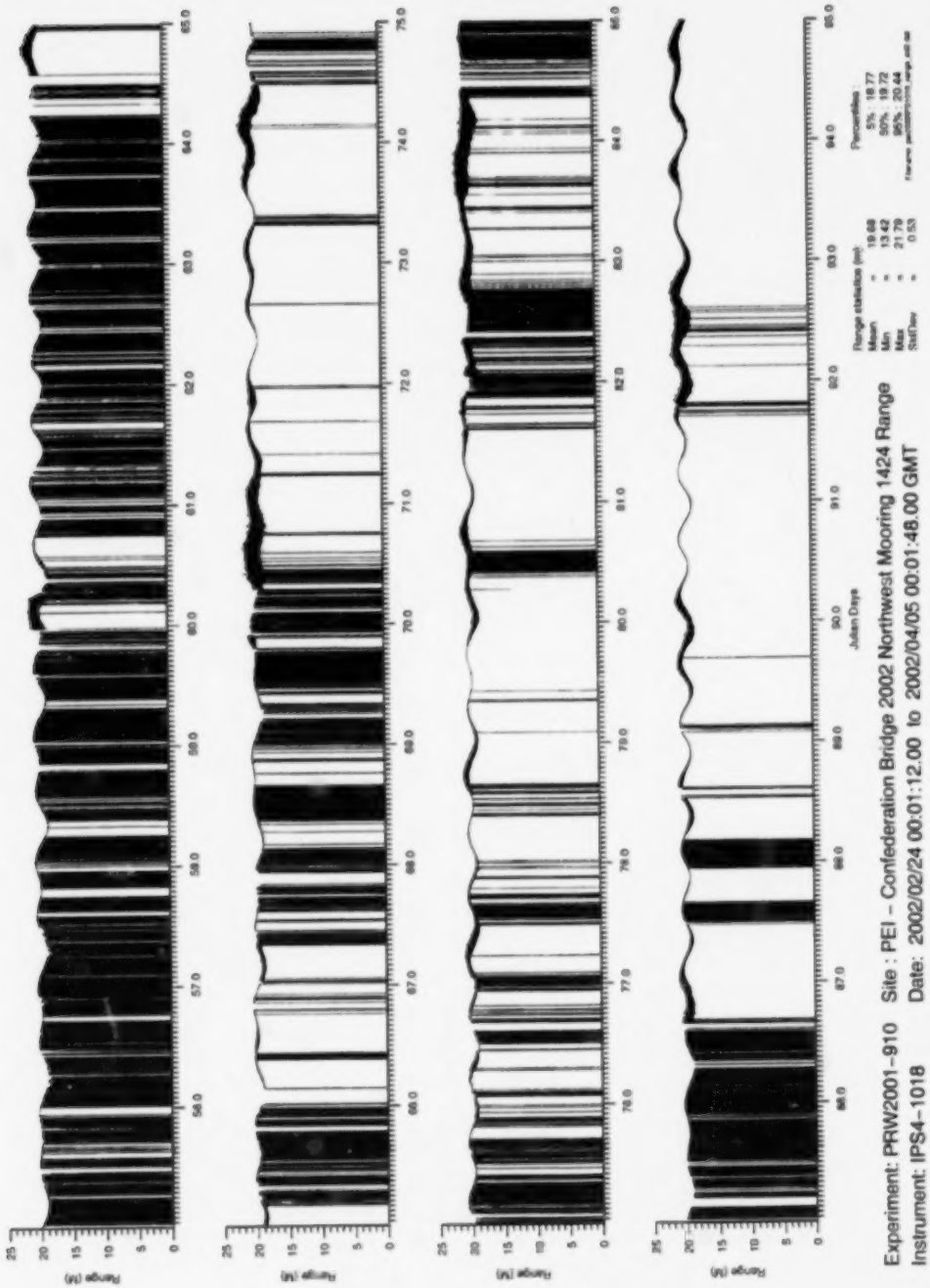
Even though there were no ice targets returned, the plots indicate the probable occurrence of ice. Of note in the range plots are the increased drop out of range between January the 6th and the end of March. It is suspected that the increased drop outs are from the IPS ranging signal hitting an ice target. There were many null targets, characterized as "0 0 0" in the raw file.

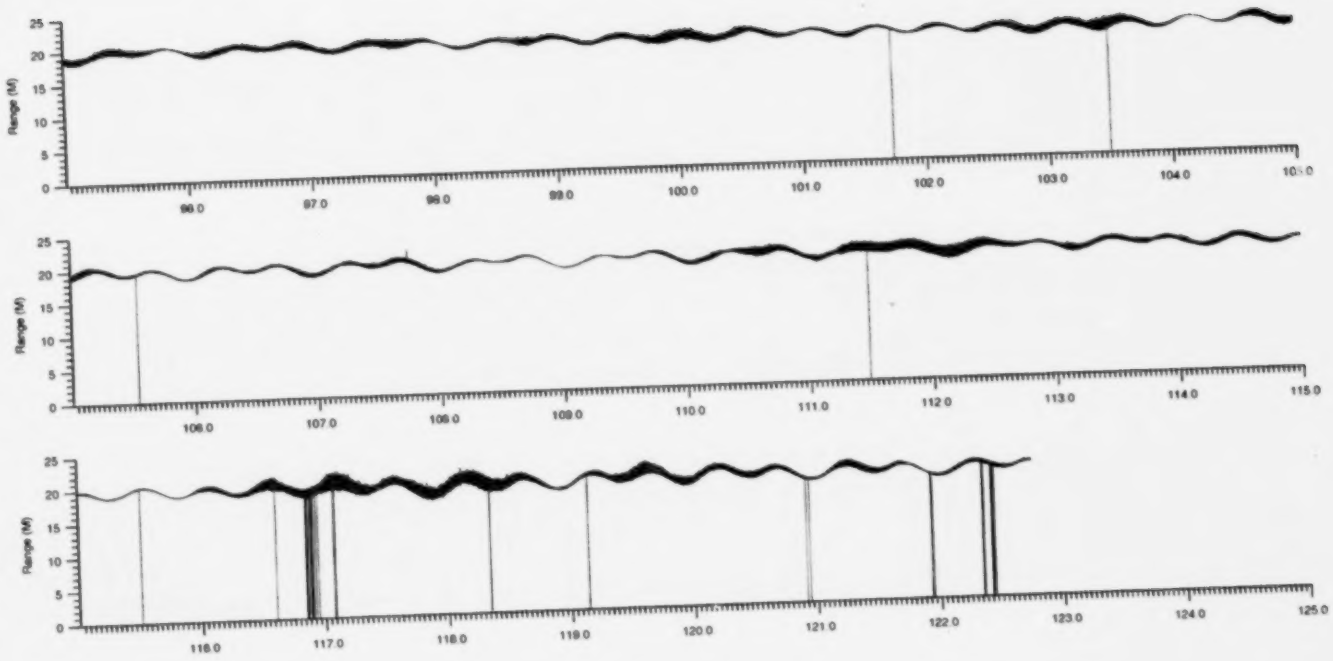
Note the change in range with tides and waves in the plots.



Experiment: PRW2001-910 Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424 Range
Instrument: IPS4-1018 Date: 2001/12/09 19:15:00.00 to 2002/01/15 00:00:36.00 GMT

Range (m)
Julian Days
Experiment: PRW2001-910 Site : PEI – Confederation Bridge 2002 Northwest Mooring 1424 Range
Instrument: IPS4-1018 Date: 2002/01/15 00:00:36.00 to 2002/02/24 00:01:12.00 GMT


Range (m)
Julian Days
Range statistics (m)
Mean = 19.88
Min = 13.42
Max = 21.73
Std Dev = 0.53
Percentiles
5% : 18.77
50% : 19.72
95% : 20.44
Experiment: PRW2001-910
Instrument: IPS4-1018
Site : PEI – Confederation Bridge 2002 Northwest Mooring 1424 Range
Date: 2002/02/24 00:01:12.00 to 2002/04/05 00:01:48.00 GMT



Experiment: PRW2001-910 Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424 Range
Instrument: IPS4-1018 Date: 2002/04/05 00:01:48.00 to 2002/05/02 18:00:00.00 GMT

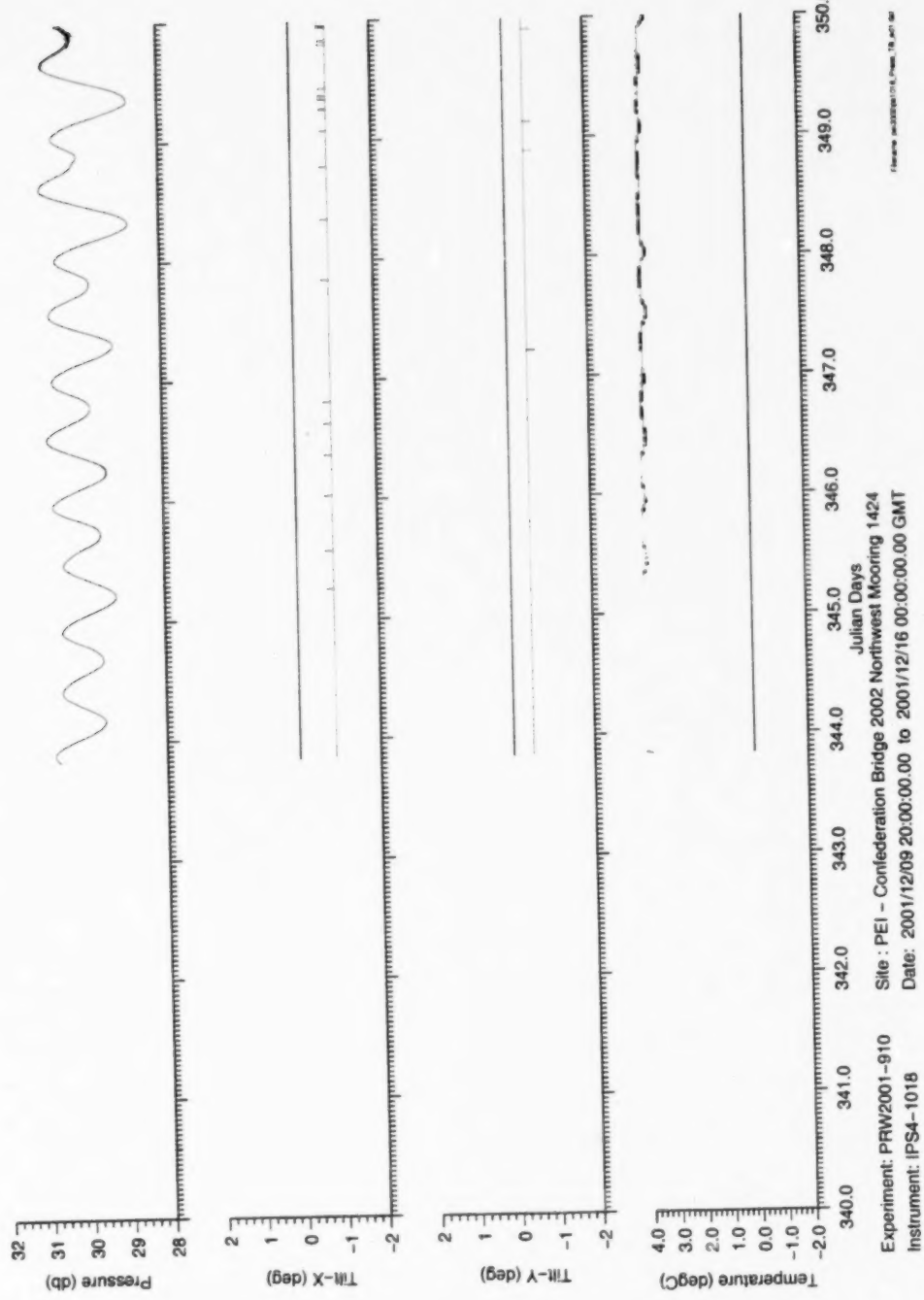
Range statistics (m)		
Mean	=	19.53
Min	=	17.01
Max	=	22.04
StdDev	=	0.53

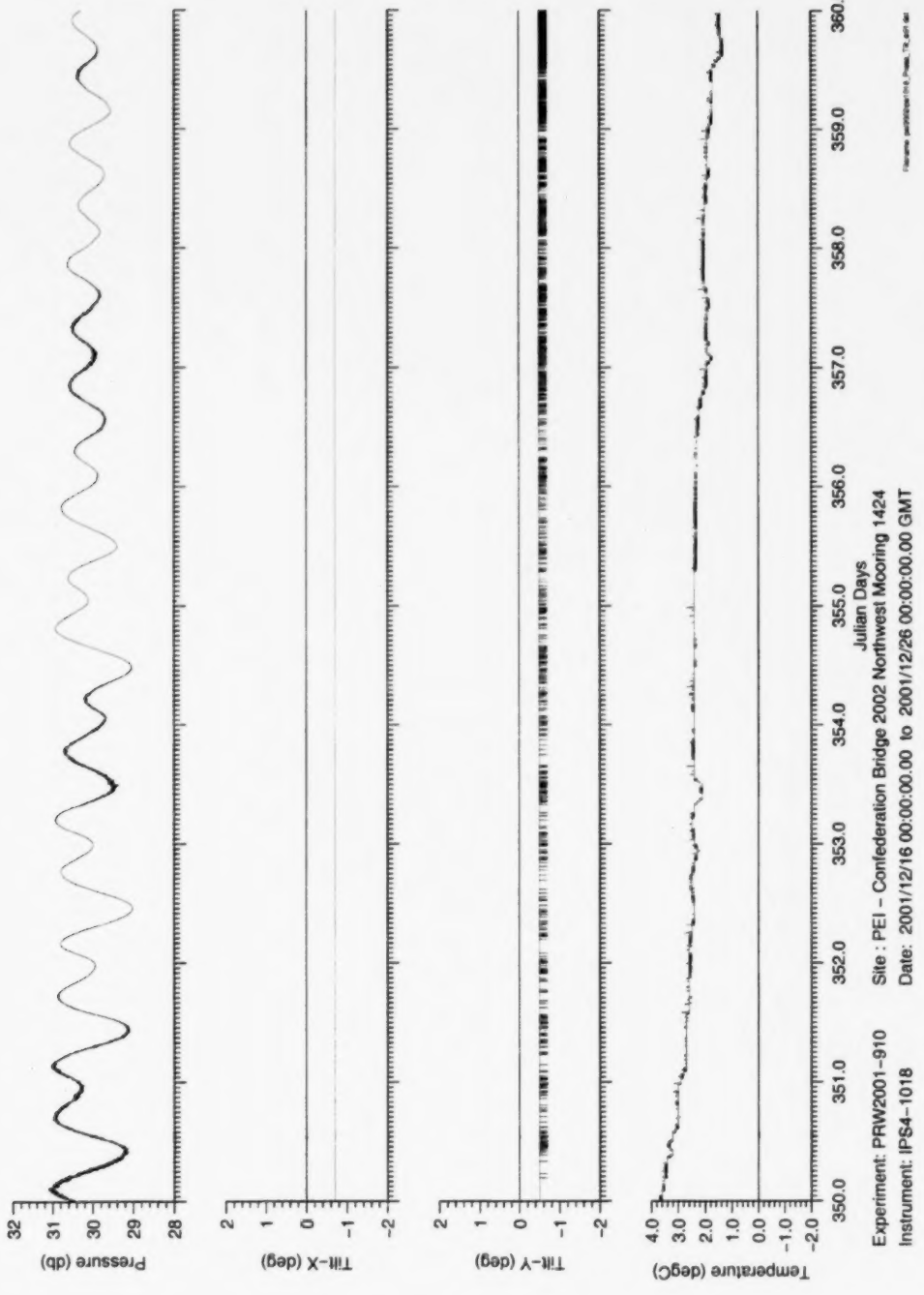
Percentiles	
5%	18.58
50%	19.61
95%	20.29

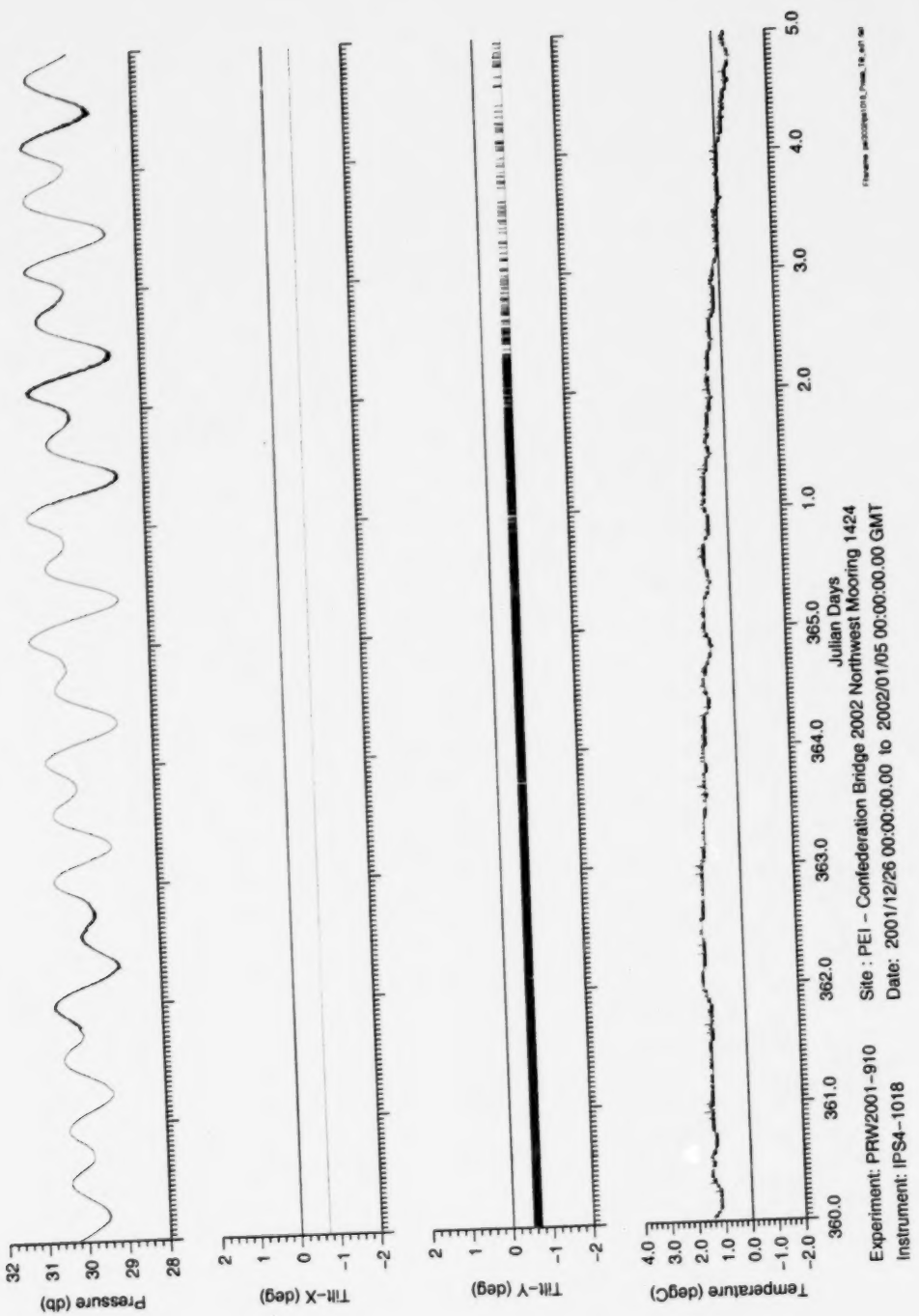
6.3.2 IPS Temp Press Tilt-X Tilt-Y

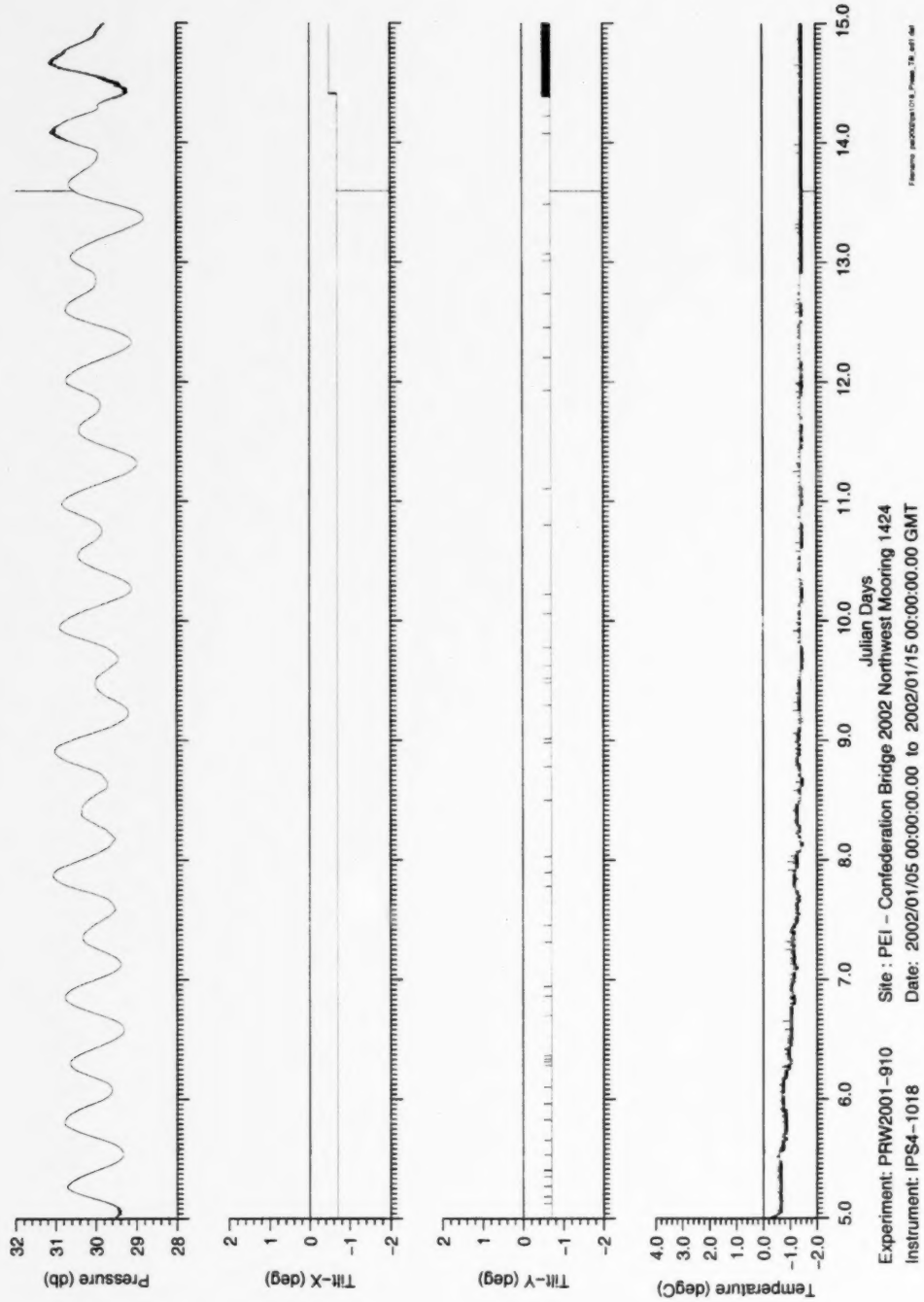
The following plots present sea Temperature, Pressure, Tilt-X and Tilt-Y from IPS instrument 1018 mooring 1424 on the Northwest side of the Confederation Bridge Pier 23 at 46° 12.441N and 63° 45.440W in a water depth of 20m. The data have a sample interval of approximately 1 minute. There is little to no tilt as the instrument was moored on the bottom in a trawl proof package. The data record has not been de-spiked for this report.

Note the tidal signal in the pressure record and the occurrence of wave induced noise.

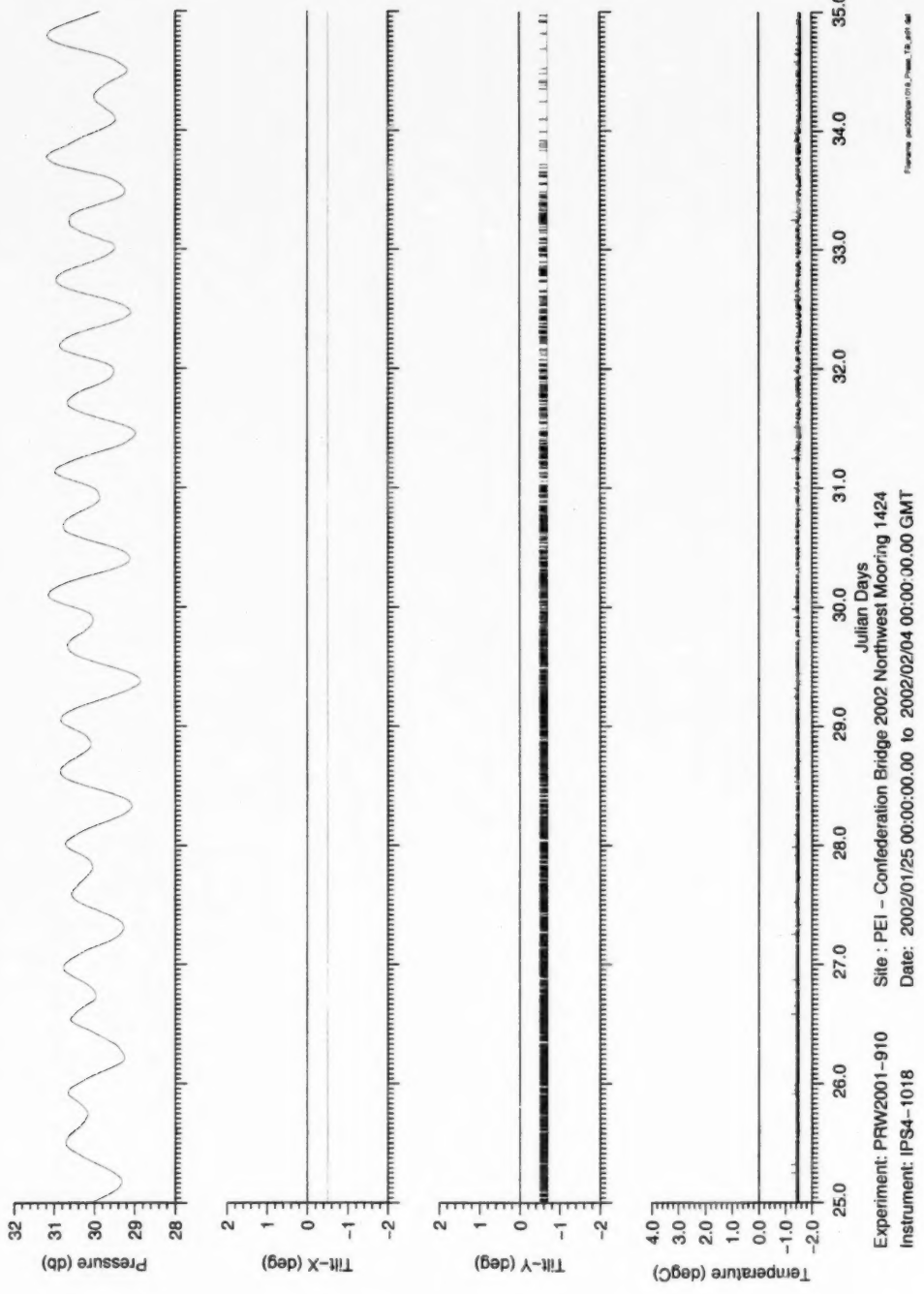

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
340.0
341.0
342.0
343.0
344.0
345.0
346.0
347.0
348.0
349.0
350.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2001/12/09 20:00:00.00 to 2001/12/16 00:00:00.00 GMT

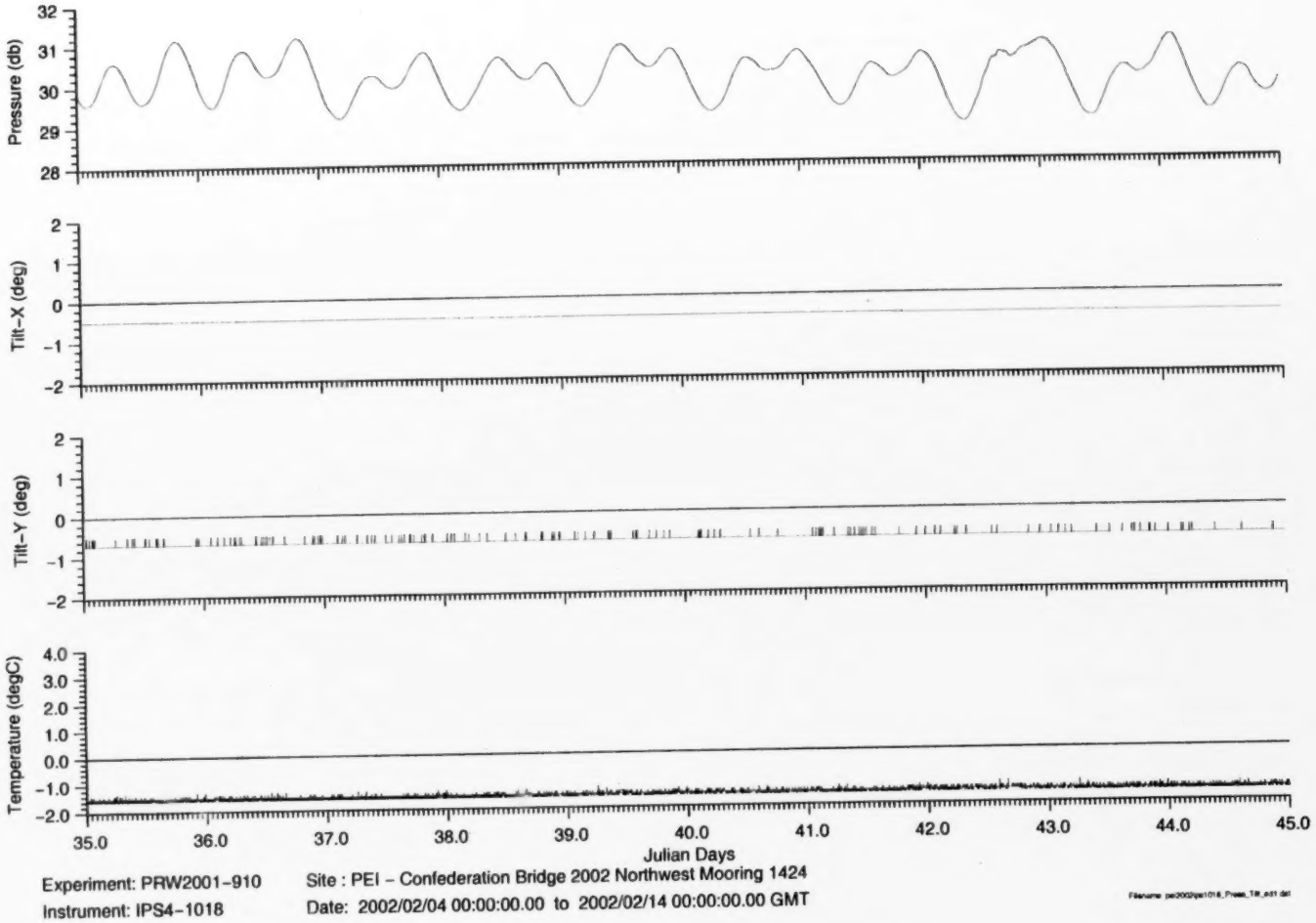

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
350.0
351.0
352.0
353.0
354.0
355.0
356.0
357.0
358.0
359.0
360.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2001/12/16 00:00:00.00 to 2001/12/26 00:00:00.00 GMT

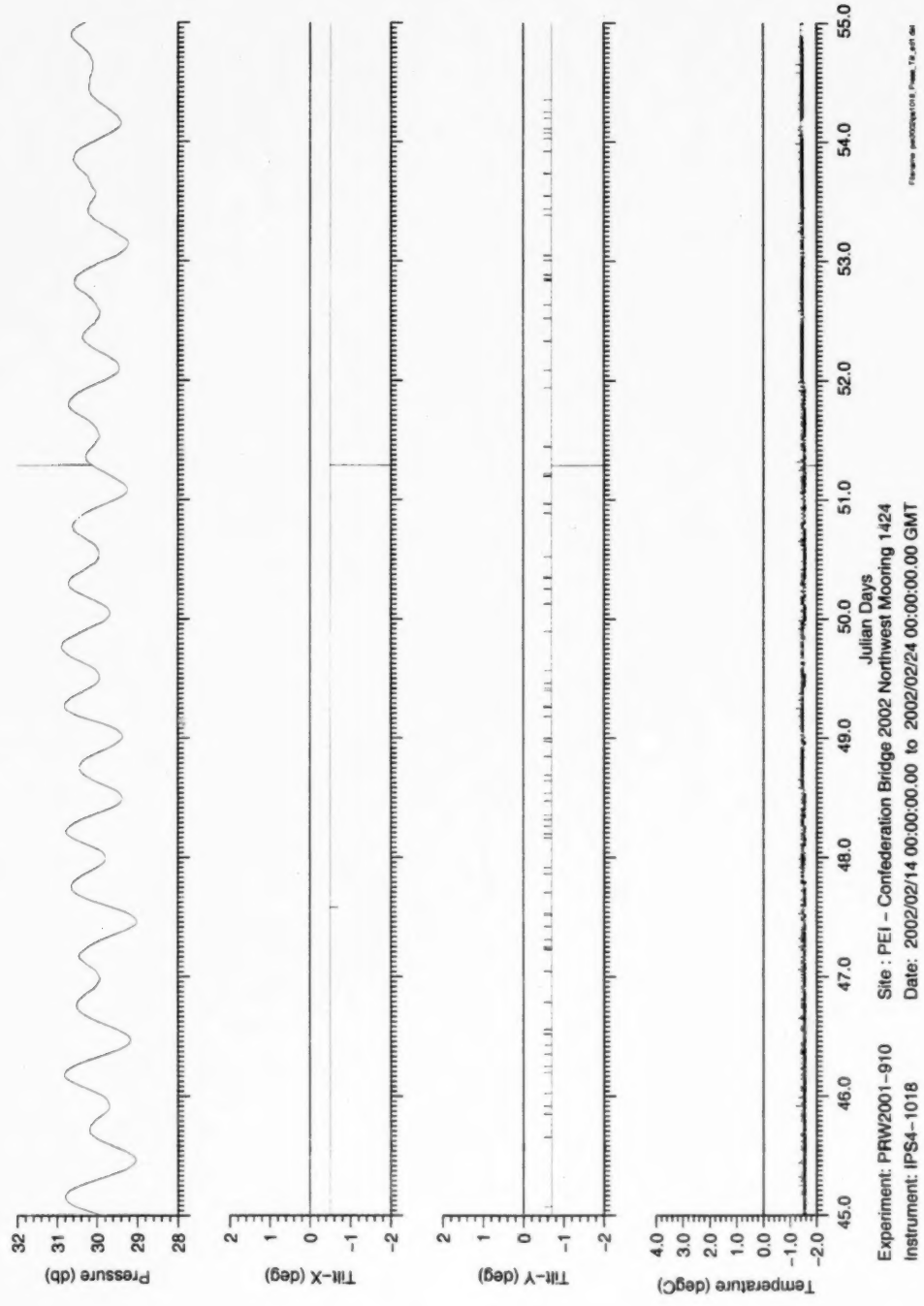

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
360.0
361.0
362.0
363.0
364.0
365.0
Julian Days
1.0
2.0
3.0
4.0
5.0
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2001/12/26 00:00:00.00 to 2002/01/05 00:00:00.00 GMT

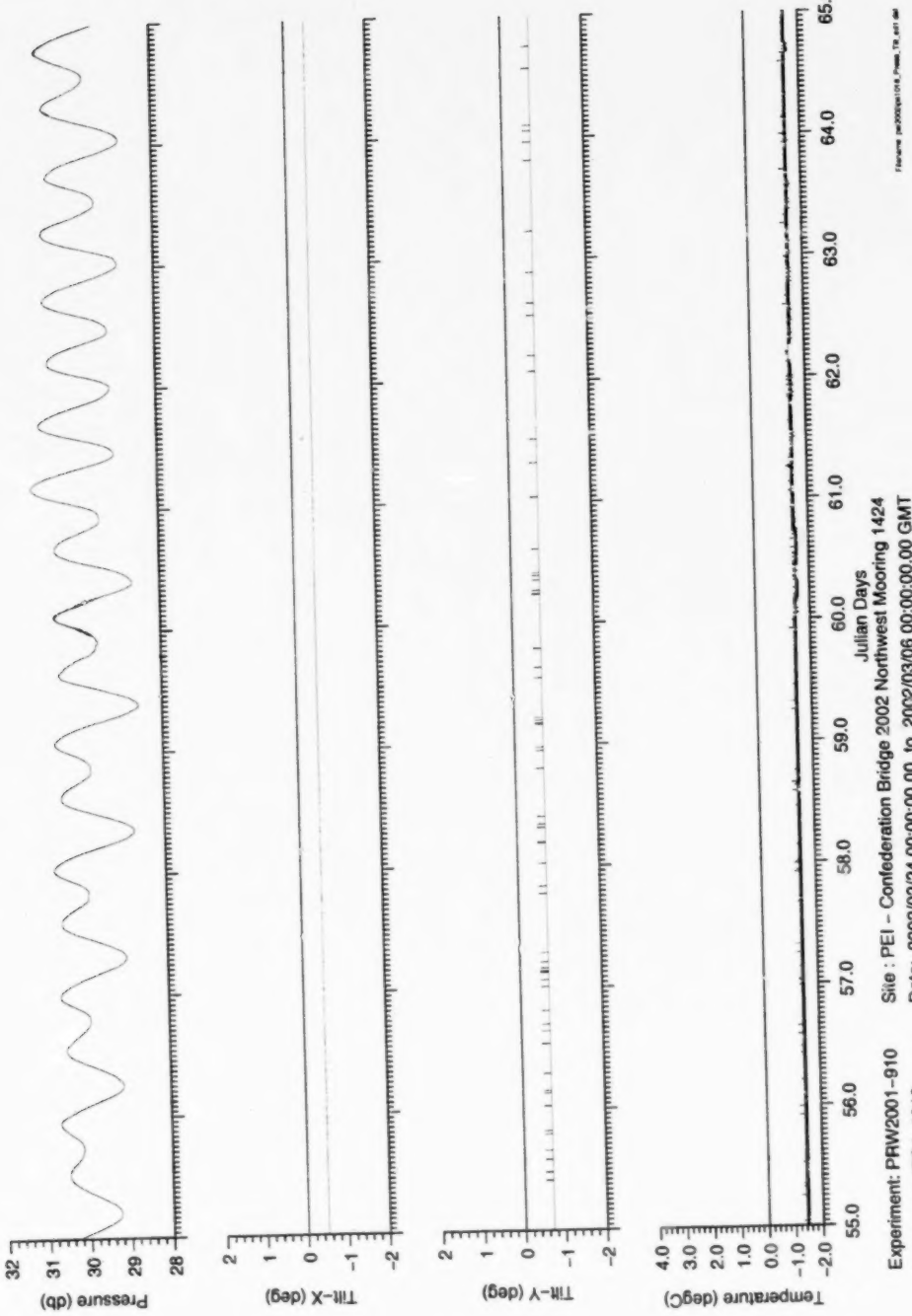

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
Julian Days
Experiment: PRW2001-910
Site : PEI – Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/01/05 00:00:00.00 to 2002/01/15 00:00:00.00 GMT

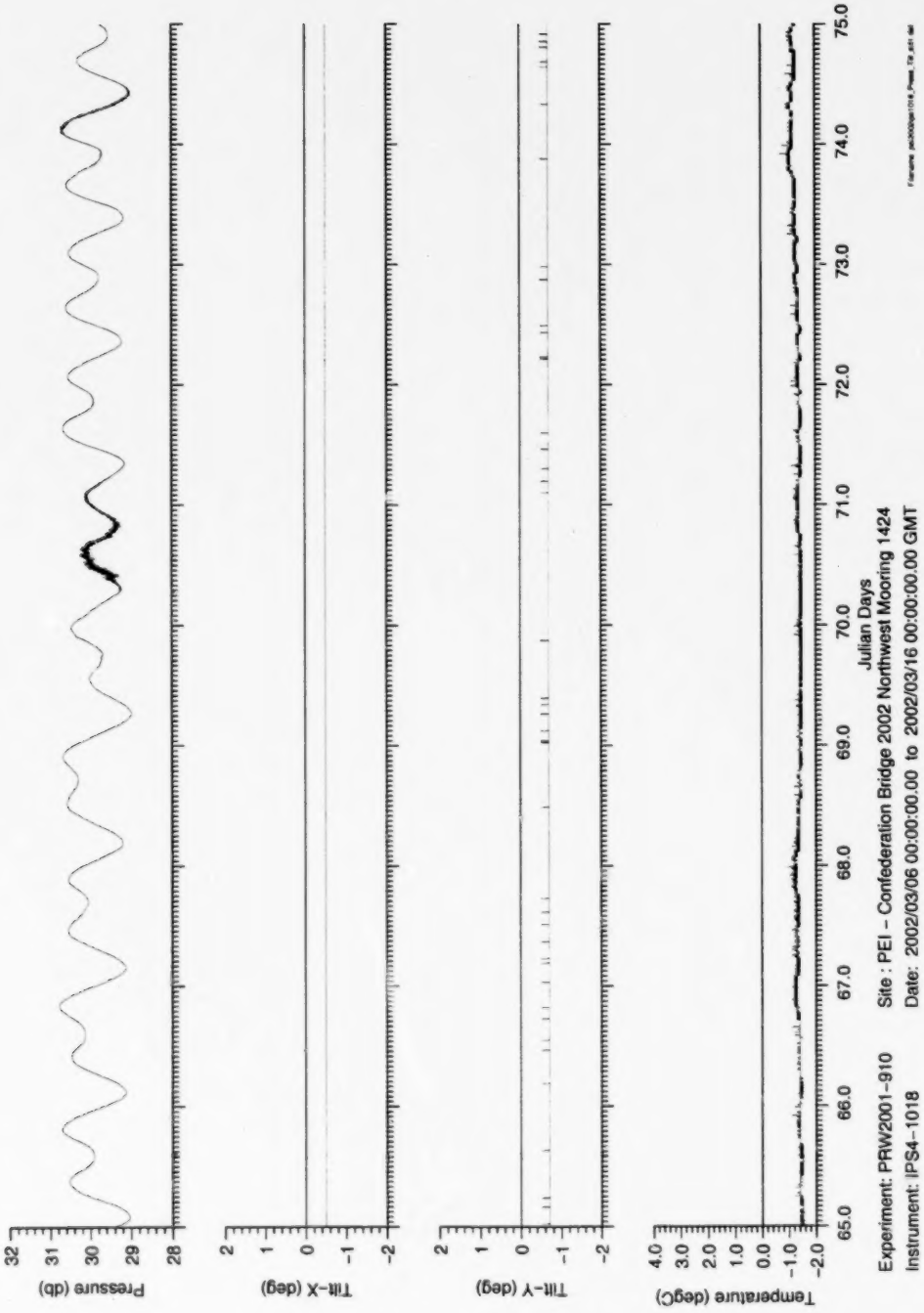
Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
15.0
16.0
17.0
18.0
19.0
20.0
21.0
22.0
23.0
24.0
25.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/01/15 00:00:00.00 to 2002/01/25 00:00:00.00 GMT


Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
25.0
26.0
27.0
28.0
29.0
30.0
31.0
32.0
33.0
34.0
35.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/01/25 00:00:00.00 to 2002/02/04 00:00:00.00 GMT

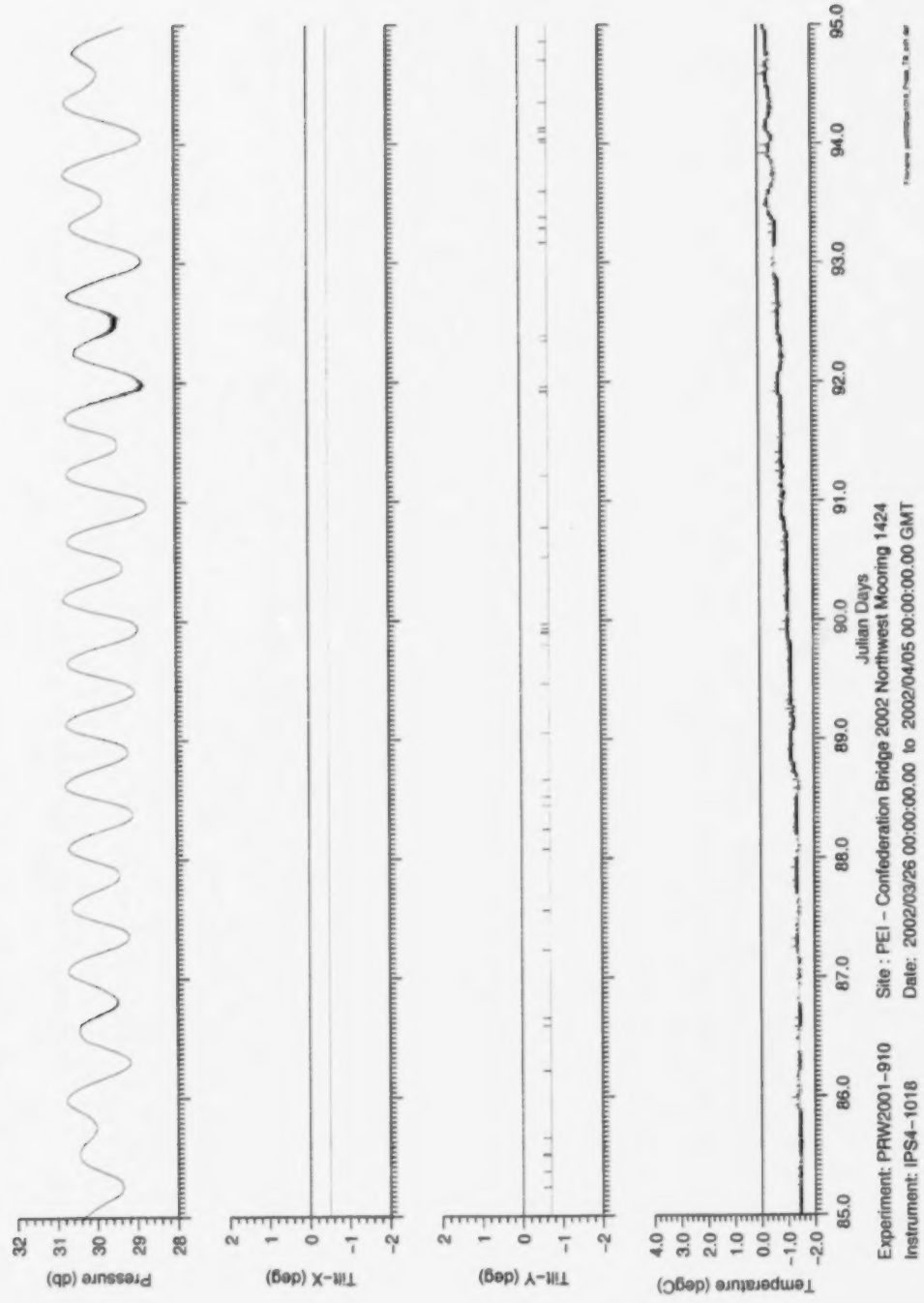

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
35.0
36.0
37.0
38.0
39.0
40.0
41.0
42.0
43.0
44.0
45.0
Julian Days
Experiment: PRW2001-910
Instrument: IPS4-1018
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Date: 2002/02/04 00:00:00.00 to 2002/02/14 00:00:00.00 GMT

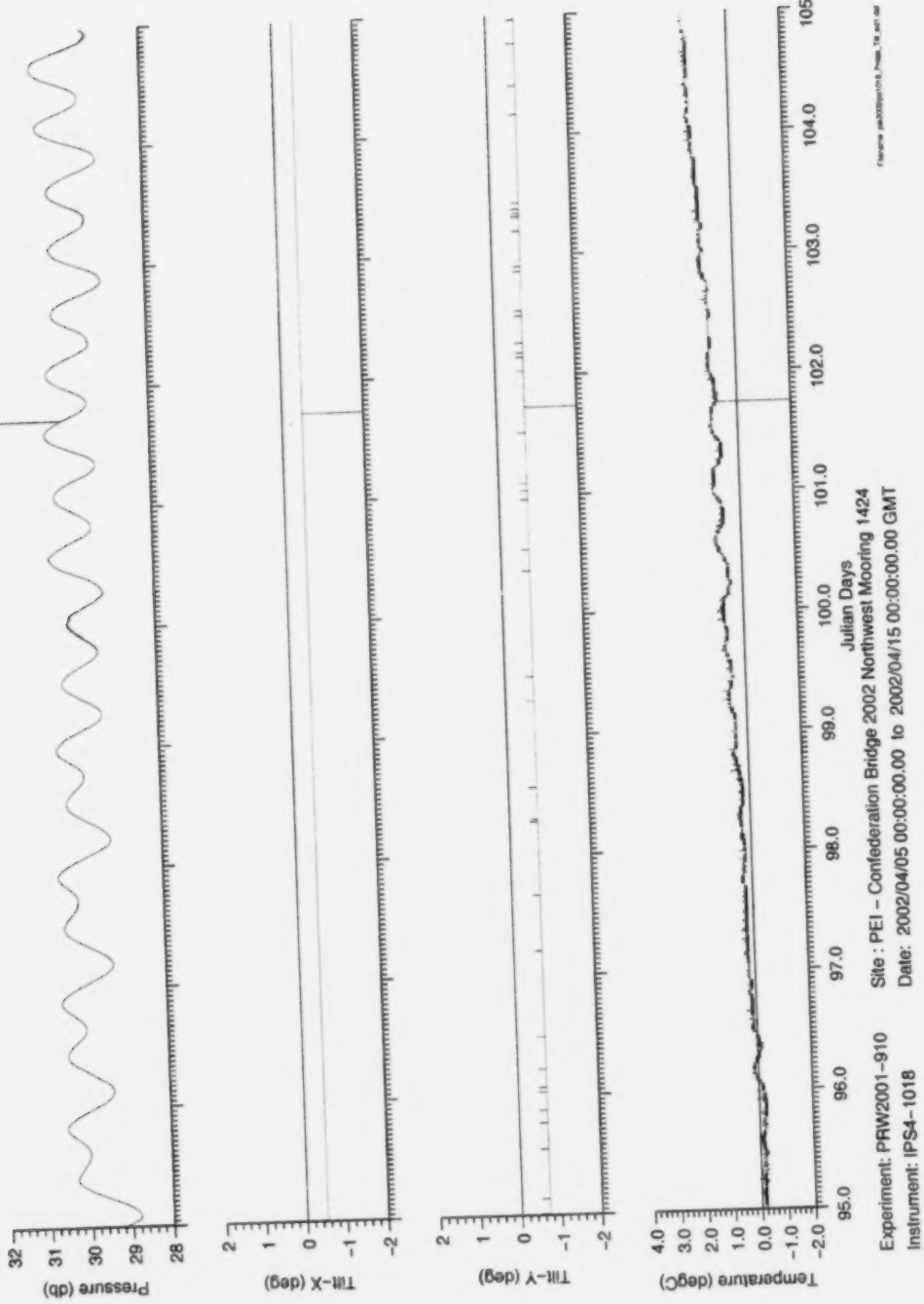

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
45.0
46.0
47.0
48.0
49.0
50.0
51.0
52.0
53.0
54.0
55.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/02/14 00:00:00.00 to 2002/02/24 00:00:00.00 GMT

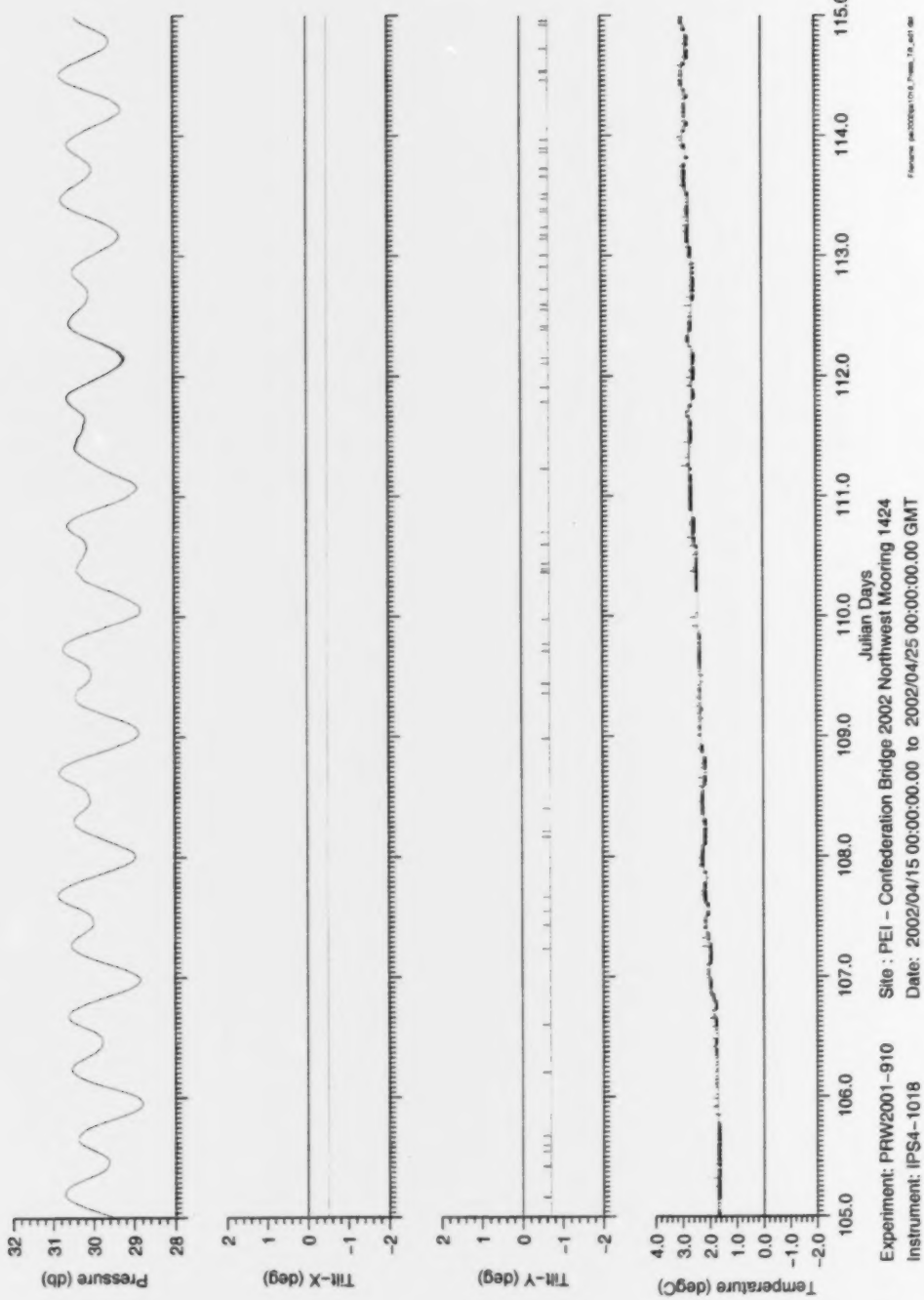

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
55.0
56.0
57.0
58.0
59.0
60.0
61.0
62.0
63.0
64.0
65.0
Julian Days
Experiment: PRW2001-910
Site : PEI – Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/02/24 00:00:00.00 to 2002/03/06 00:00:00.00 GMT

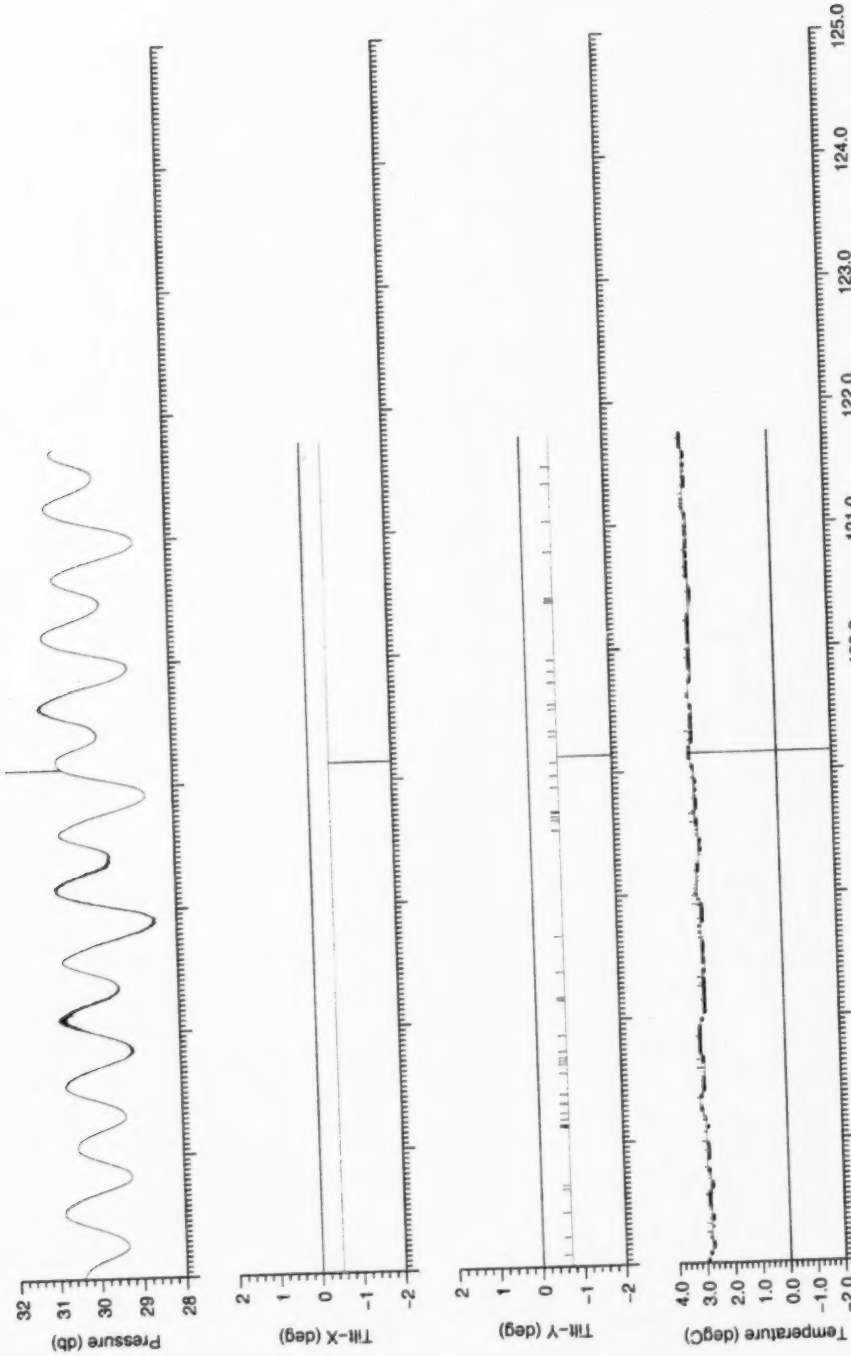

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
65.0
66.0
67.0
68.0
69.0
70.0
71.0
72.0
73.0
74.0
75.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/03/06 00:00:00.00 to 2002/03/16 00:00:00.00 GMT

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
75.0
76.0
77.0
78.0
79.0
80.0
81.0
82.0
83.0
84.0
85.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/03/16 00:00:00.00 to 2002/03/26 00:00:00.00 GMT


Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
85.0
86.0
87.0
88.0
89.0
90.0
91.0
92.0
93.0
94.0
95.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/03/26 00:00:00.00 to 2002/04/05 00:00:00.00 GMT


Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
95.0
96.0
97.0
98.0
99.0
100.0
101.0
102.0
103.0
104.0
105.0
Julian Days
Experiment: PRW2001-910
Instrument: IPS4-1018
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Date: 2002/04/05 00:00:00.00 to 2002/04/15 00:00:00.00 GMT


Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
105.0
106.0
107.0
108.0
109.0
110.0
111.0
112.0
113.0
114.0
115.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/04/15 00:00:00.00 to 2002/04/25 00:00:00.00 GMT

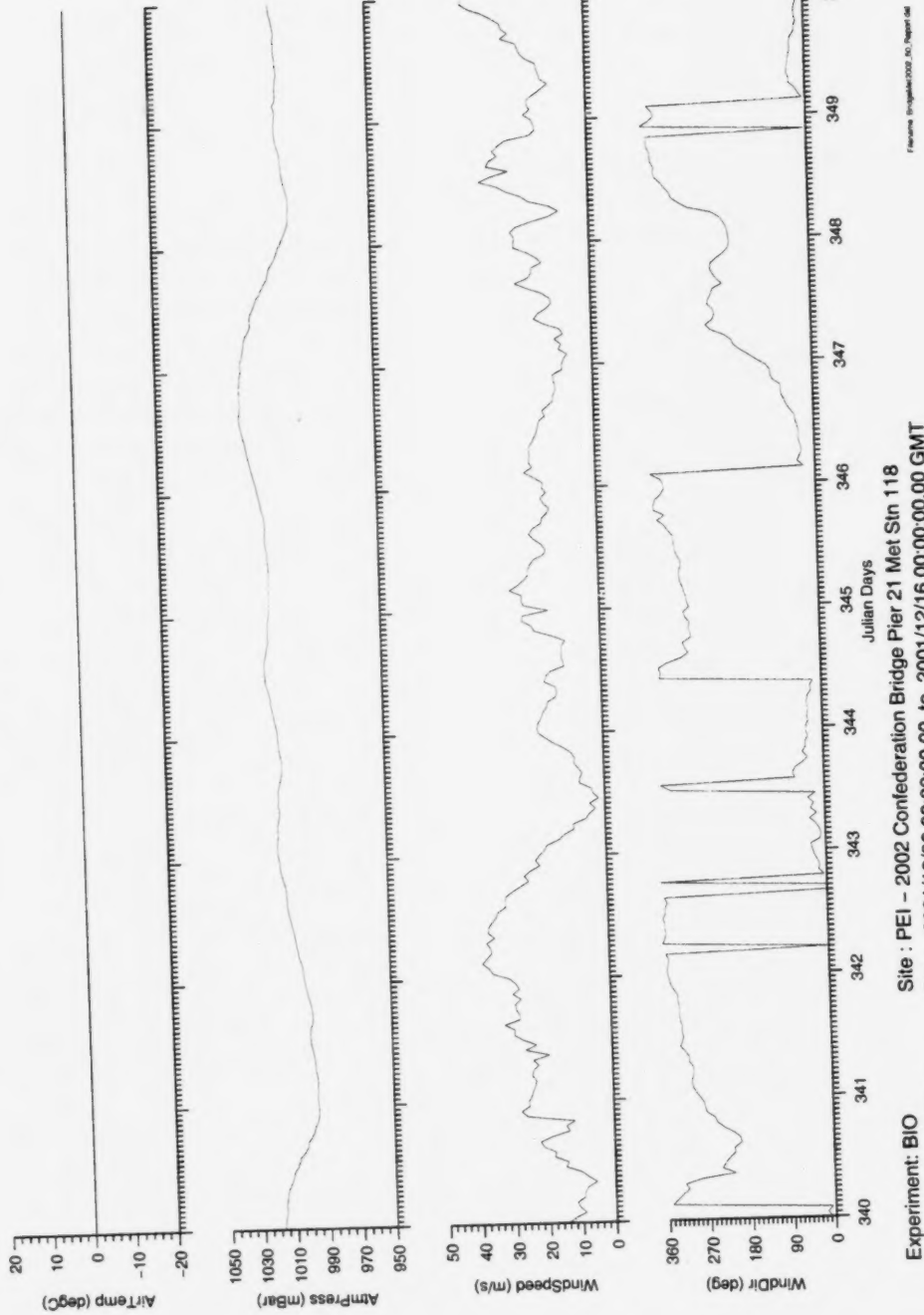

Pressure (db)
32
31
30
29
28
Tilt-X (deg)
2
1
0
-1
-2
Tilt-Y (deg)
2
1
0
-1
-2
Temperature (degC)
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
115.0
116.0
117.0
118.0
119.0
120.0
121.0
122.0
123.0
124.0
125.0
Julian Days
Experiment: PRW2001-910
Site : PEI - Confederation Bridge 2002 Northwest Mooring 1424
Instrument: IPS4-1018
Date: 2002/04/25 00:00:00.00 to 2002/05/01 18:00:00.00 GMT

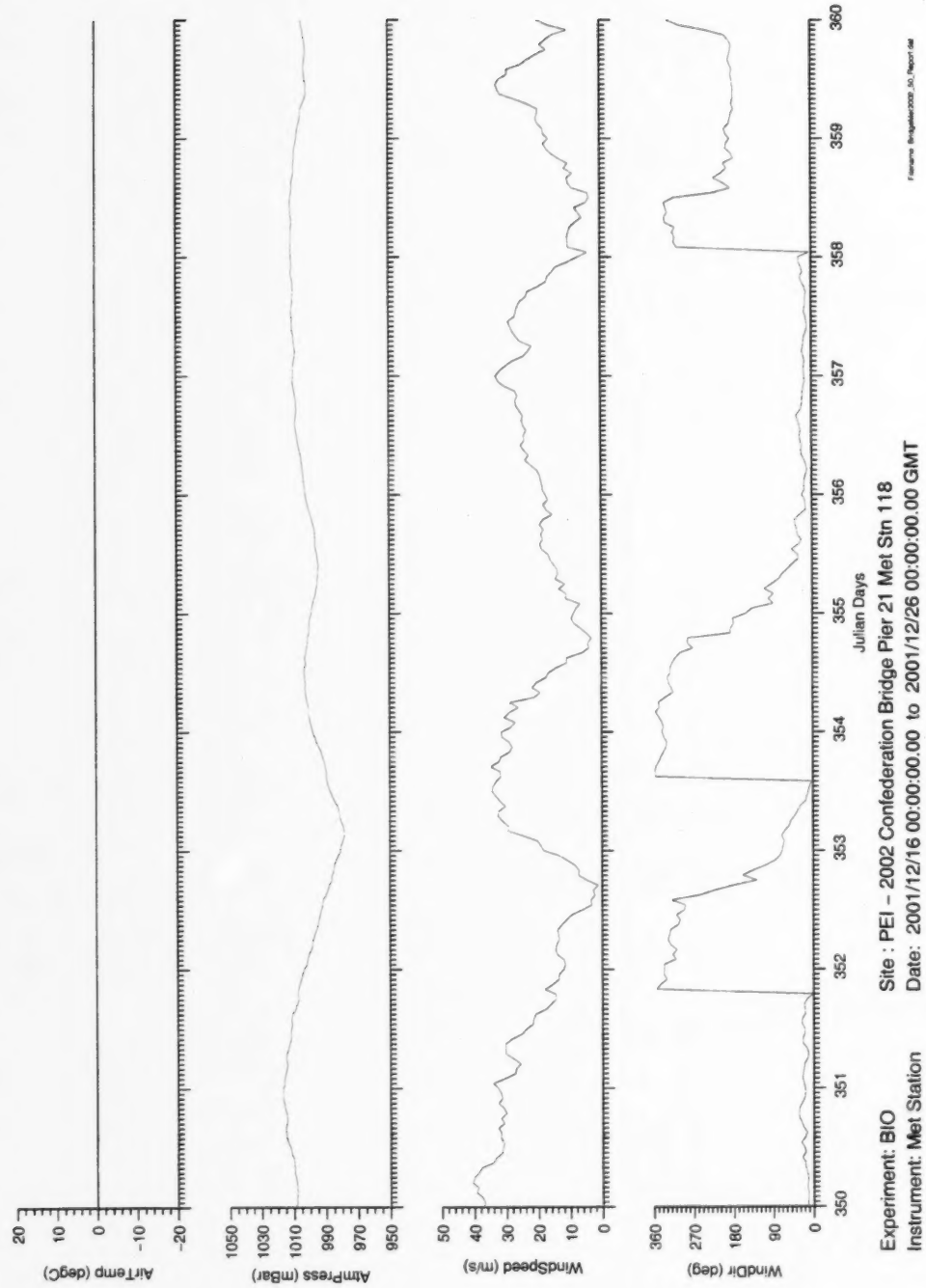
6.4 MET Data

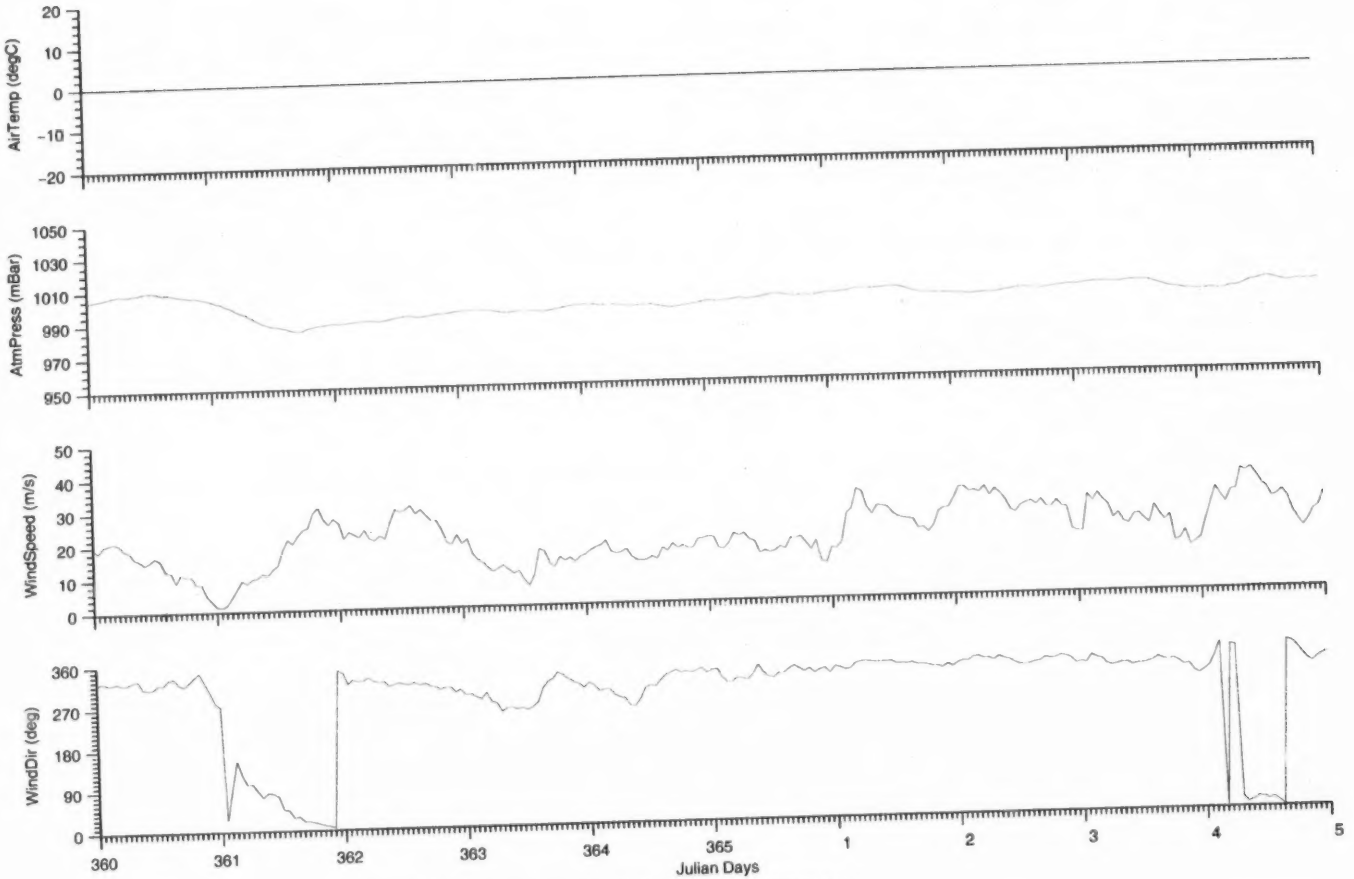
Atmospheric data collected from the Confederation Bridge and Summerside were used in the analysis of data for this report.

6.4.1 MET Confederation Bridge

The following data represents hourly averaged atmospheric pressure, wind speed and direction collected on the Confederation Bridge from December 6th to April 17th, 2002. Four hours were added to the time channel to convert from Atlantic Standard Time to Universal Time. The temperature sensor did not work and was not plotted. Fifty degrees was added to the direction data to align it with the axis of flow of the channel. The atmospheric pressure has not been adjusted to sea level for these plots. The corrected to sea level atmospheric pressure from Summerside was used for analysis for this report.

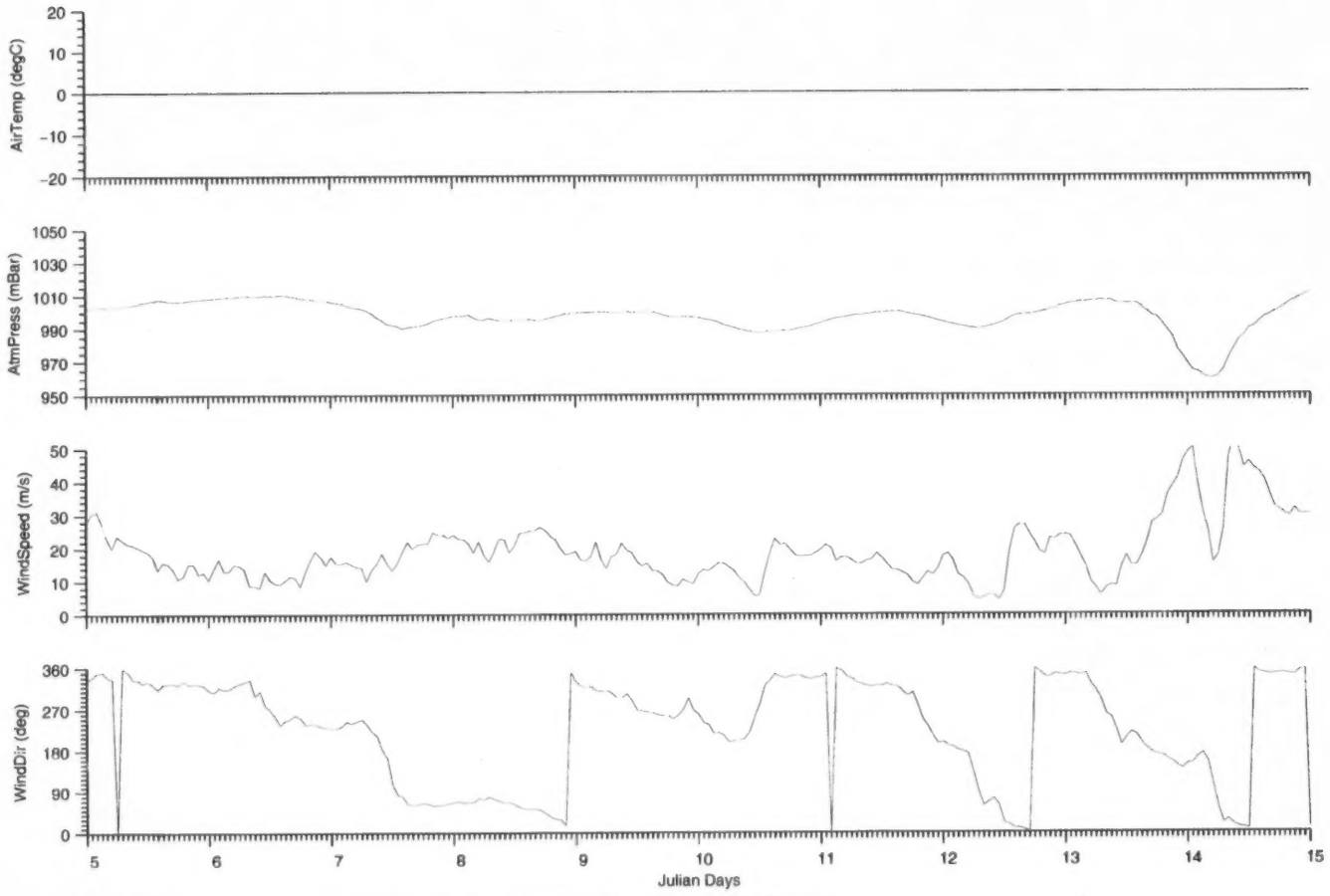

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
340
341
342
343
344
345
346
347
348
349
350
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2001/12/06 00:00:00.00 to 2001/12/16 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
350
351
352
353
354
355
356
357
358
359
360
Julian Days
Experiment: BIO
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Instrument: Met Station
Date: 2001/12/16 00:00:00.00 to 2001/12/26 00:00:00.00 GMT



Experiment: BIO
Instrument: Met Station

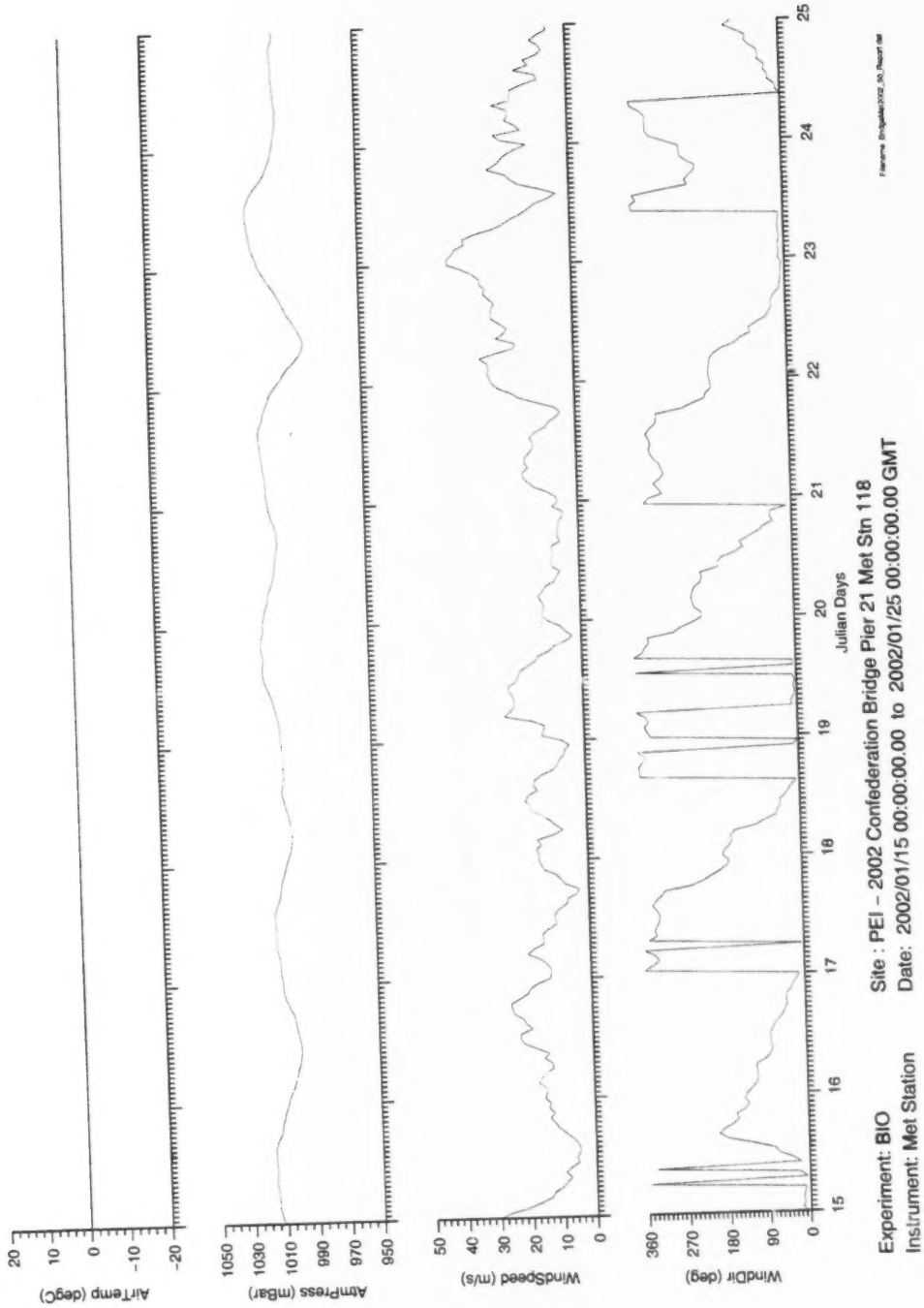
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2001/12/26 00:00:00.00 to 2002/01/05 00:00:00.00 GMT

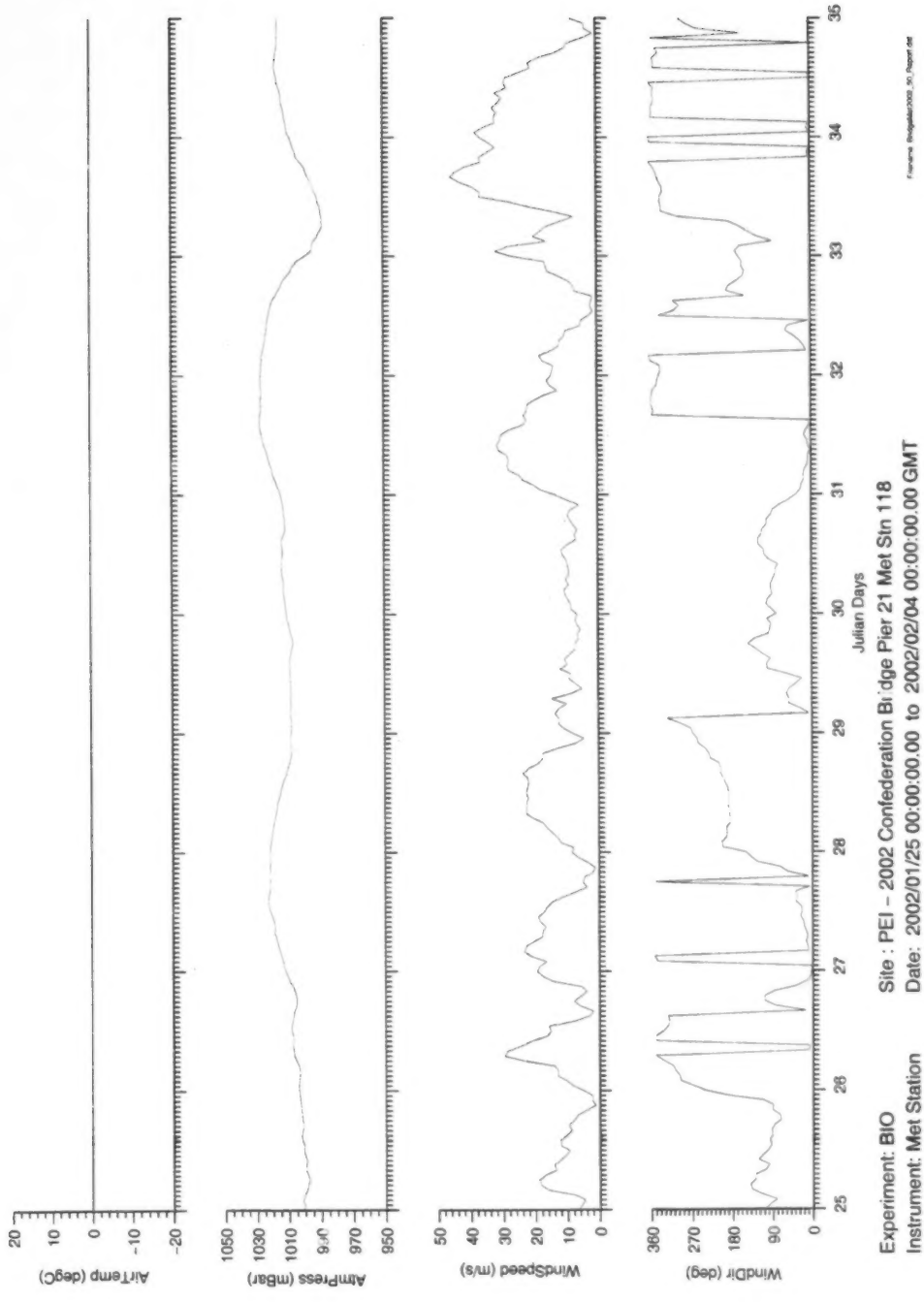


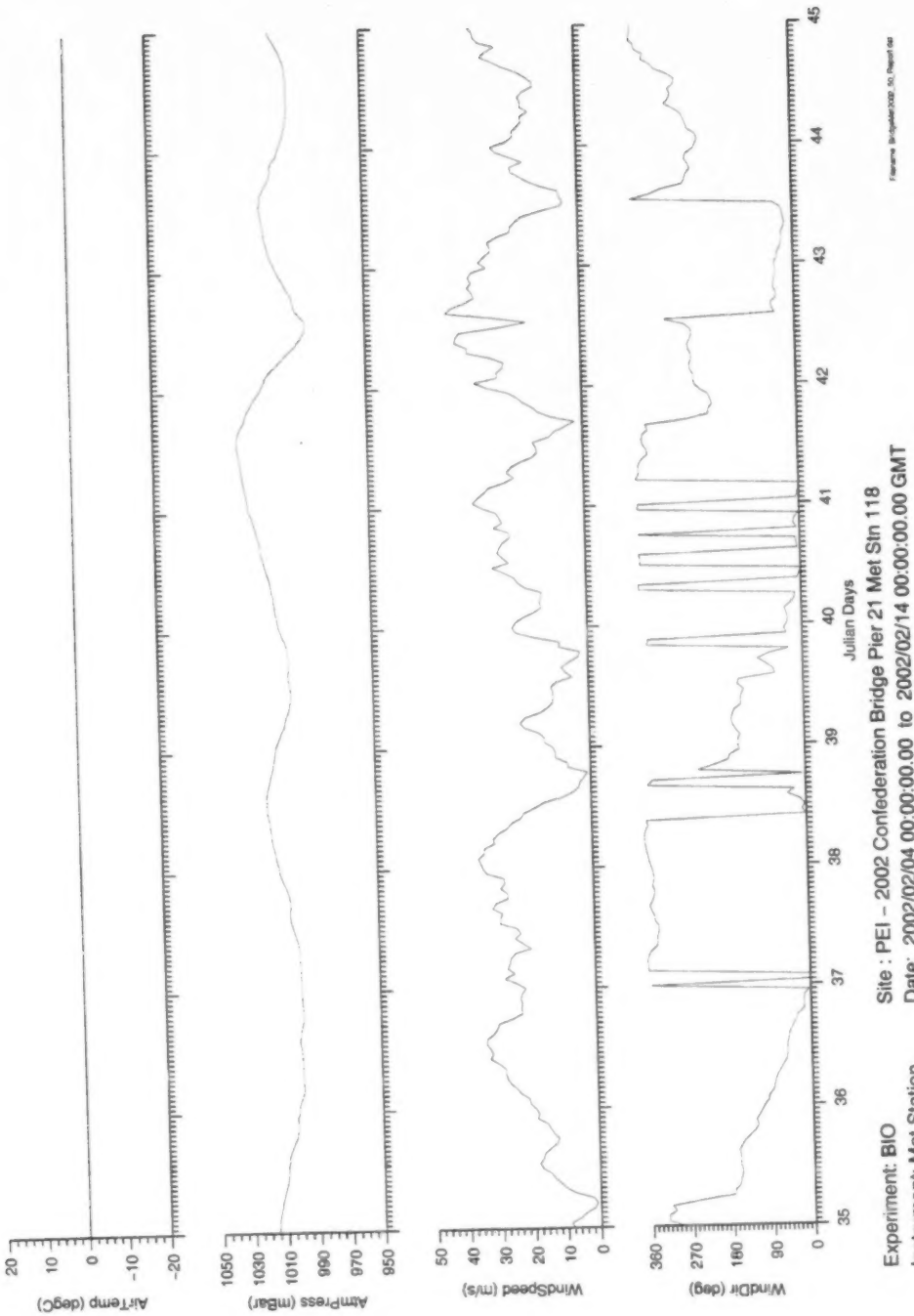
Experiment: BIO
Instrument: Met Station

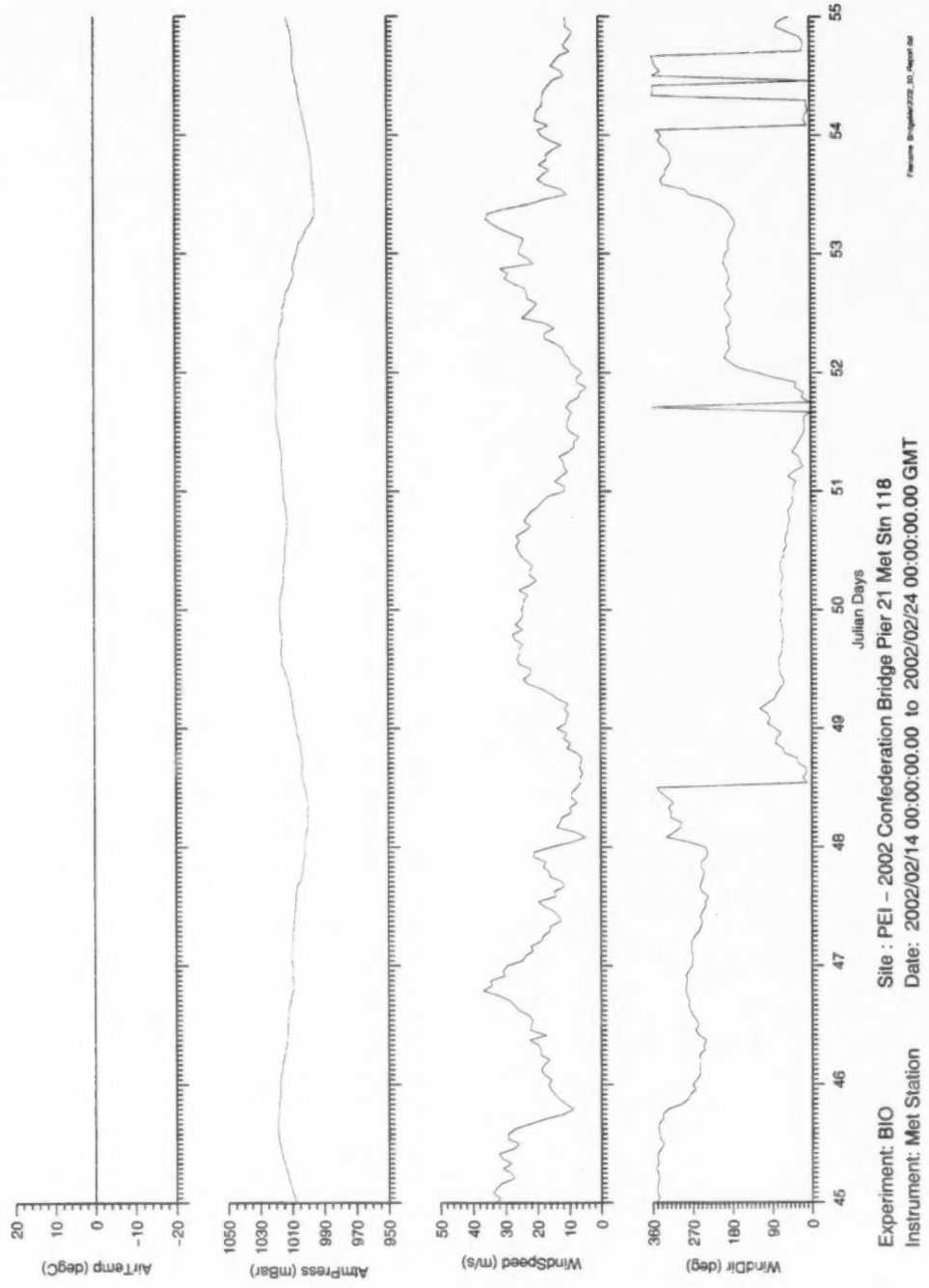
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/01/05 00:00:00.00 to 2002/01/15 00:00:00.00 GMT

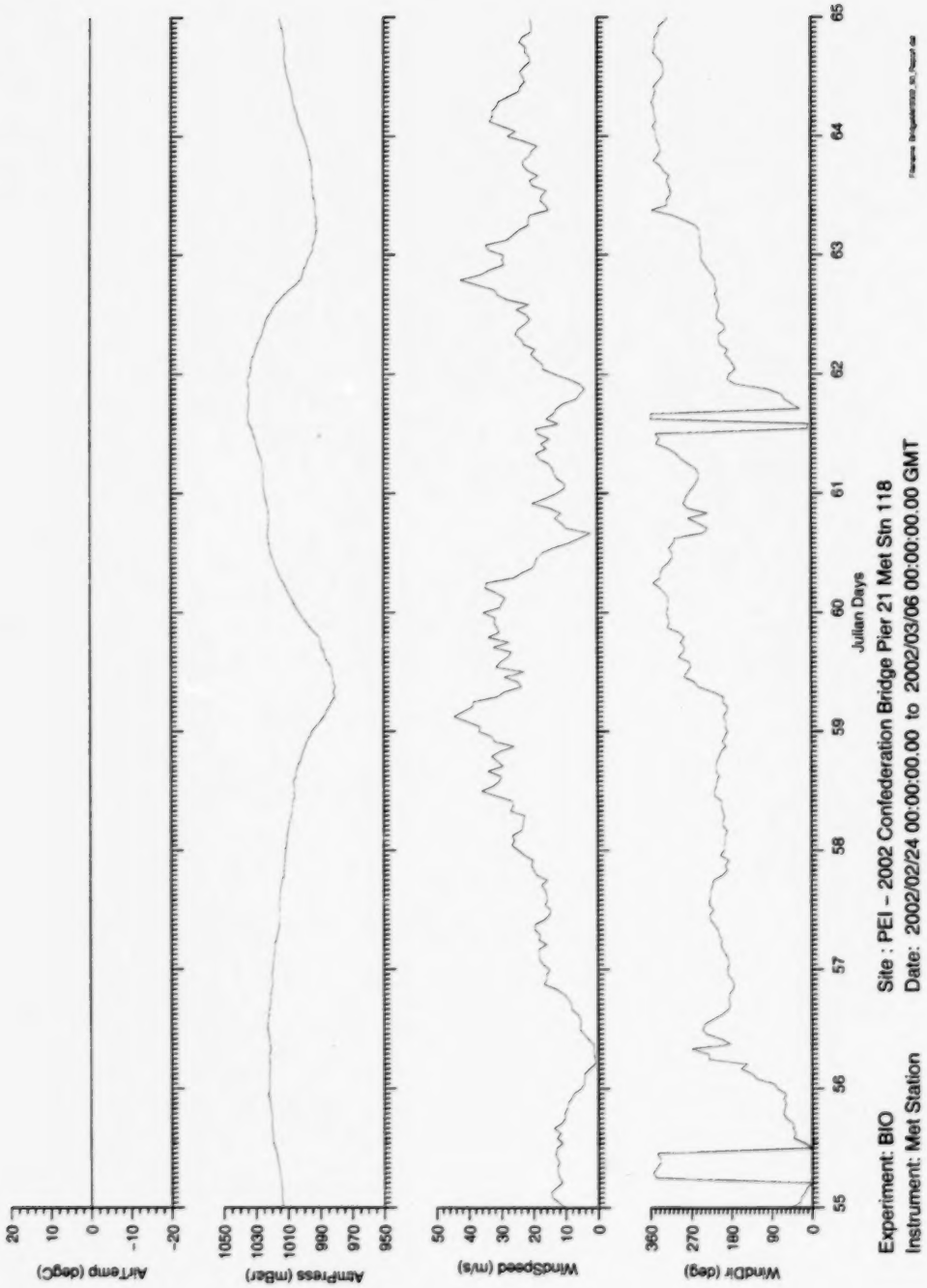
Filename: BridgeMet2002_50_Report.dat

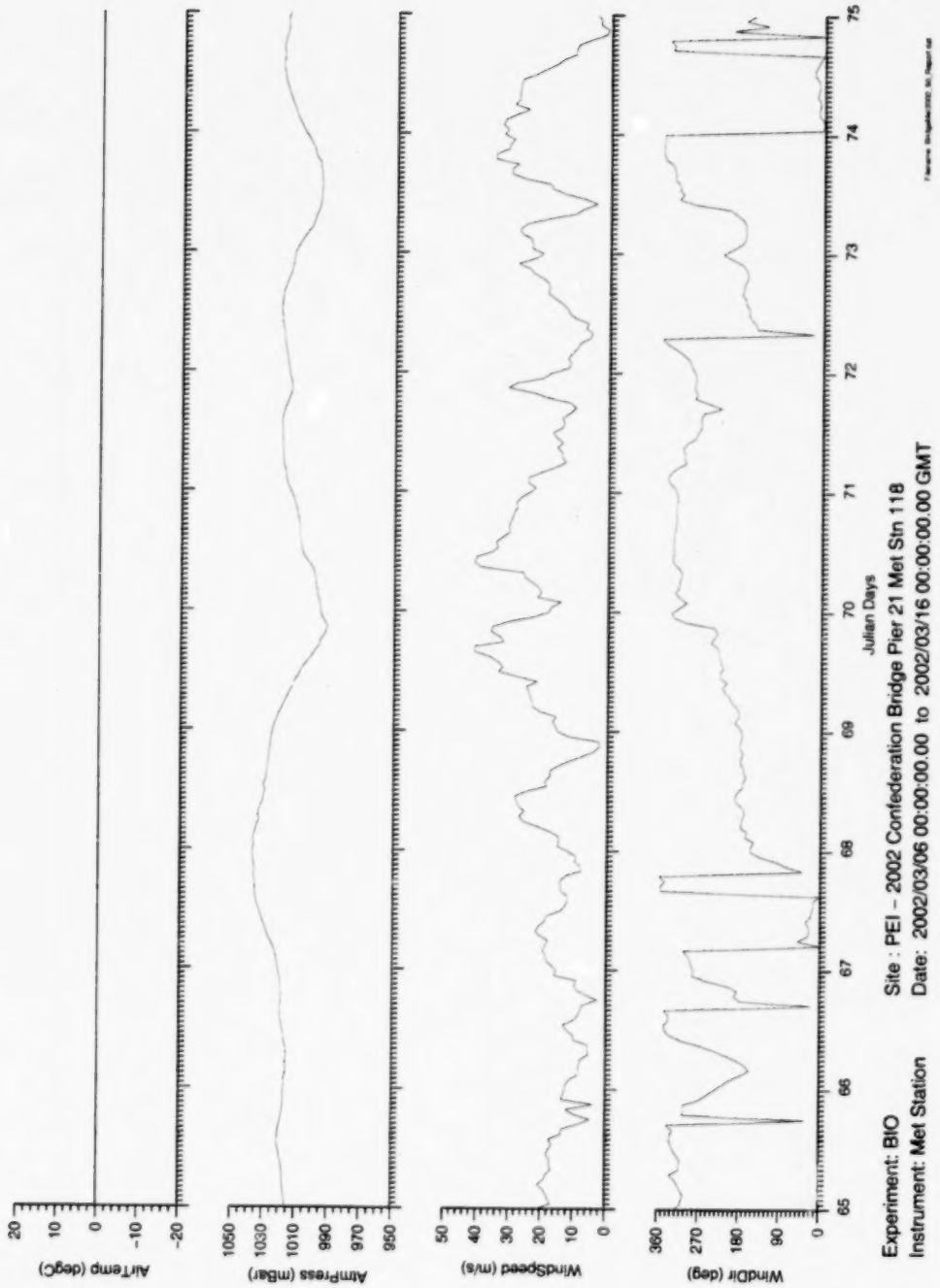

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
15
16
17
18
19
20
21
22
23
24
25
Julian Days
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/01/15 00:00:00.00 to 2002/01/25 00:00:00.00 GMT
Experiment: BIO
Instrument: Met Station

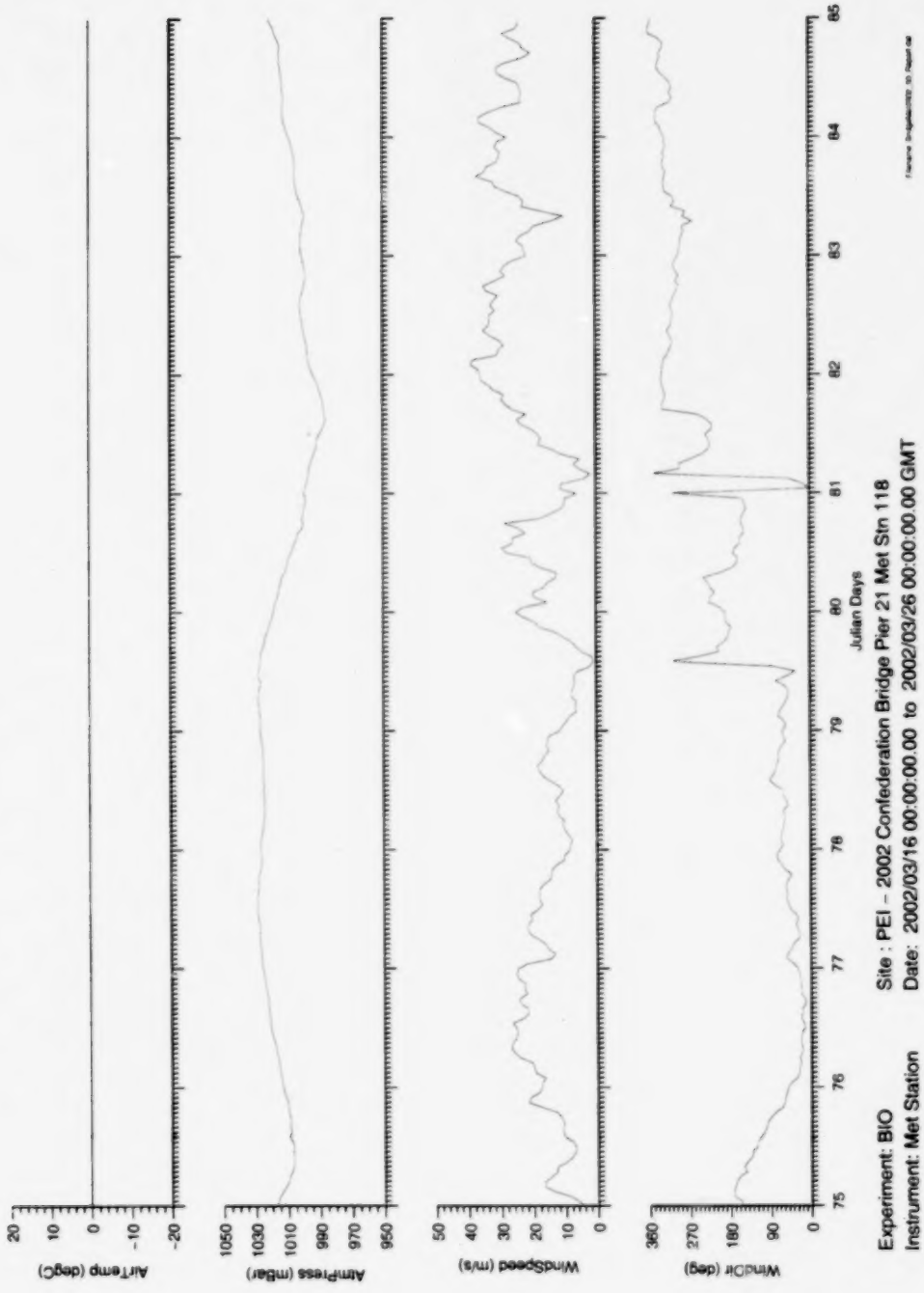

AirTemp (degC)
AtmPress (mBar)
WindSpeed (m/s)
WindDir (deg)
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/01/25 00:00:00.00 to 2002/02/04 00:00:00.00 GMT

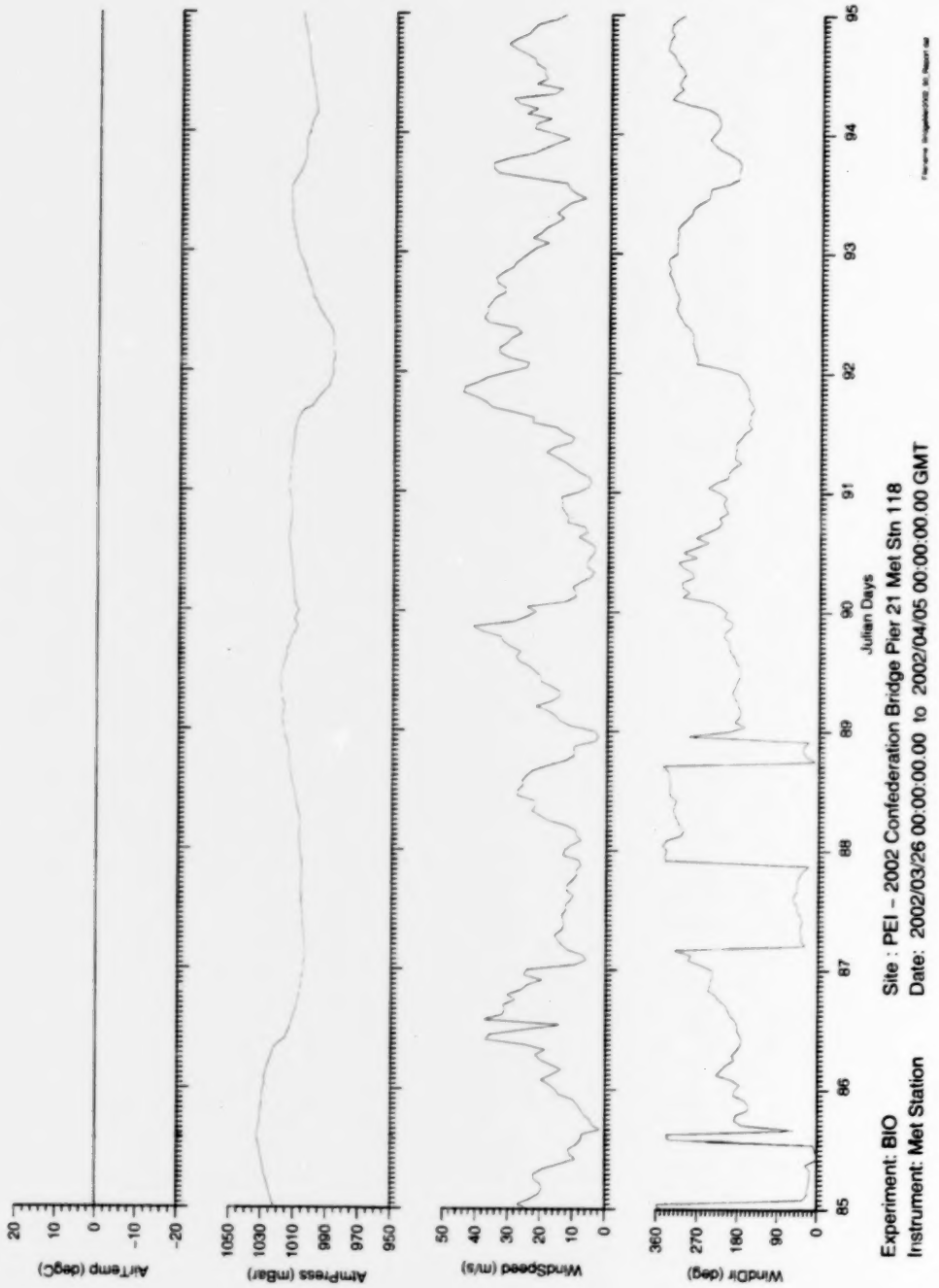

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
35
36
37
38
39
40
41
42
43
44
45
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/02/04 00:00:00.00 to 2002/02/14 00:00:00.00 GMT

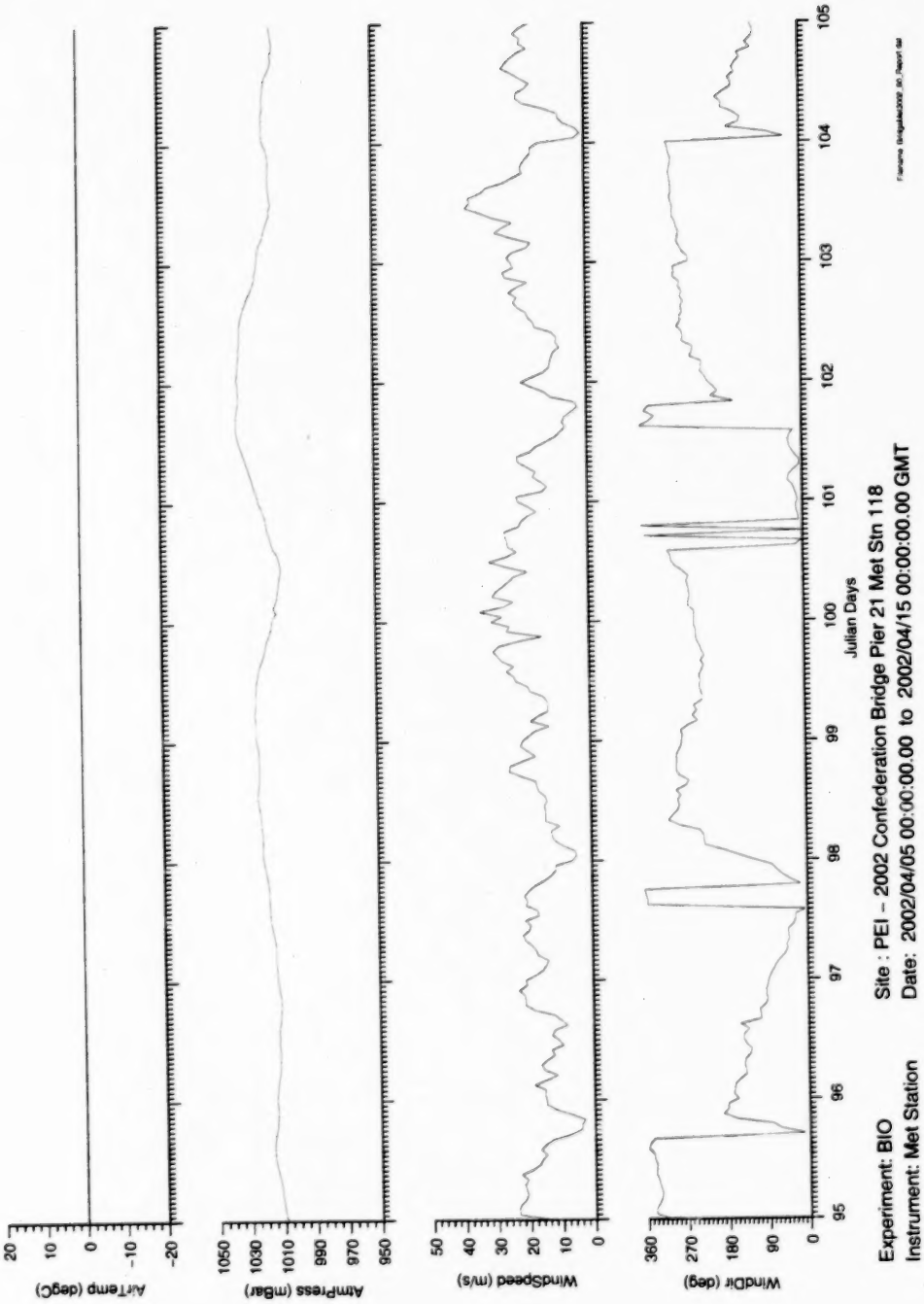

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
45
46
47
48
49
50
51
52
53
54
55
Julian Days
Experiment: BIO
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Instrument: Met Station
Date: 2002/02/14 00:00:00.00 to 2002/02/24 00:00:00.00 GMT

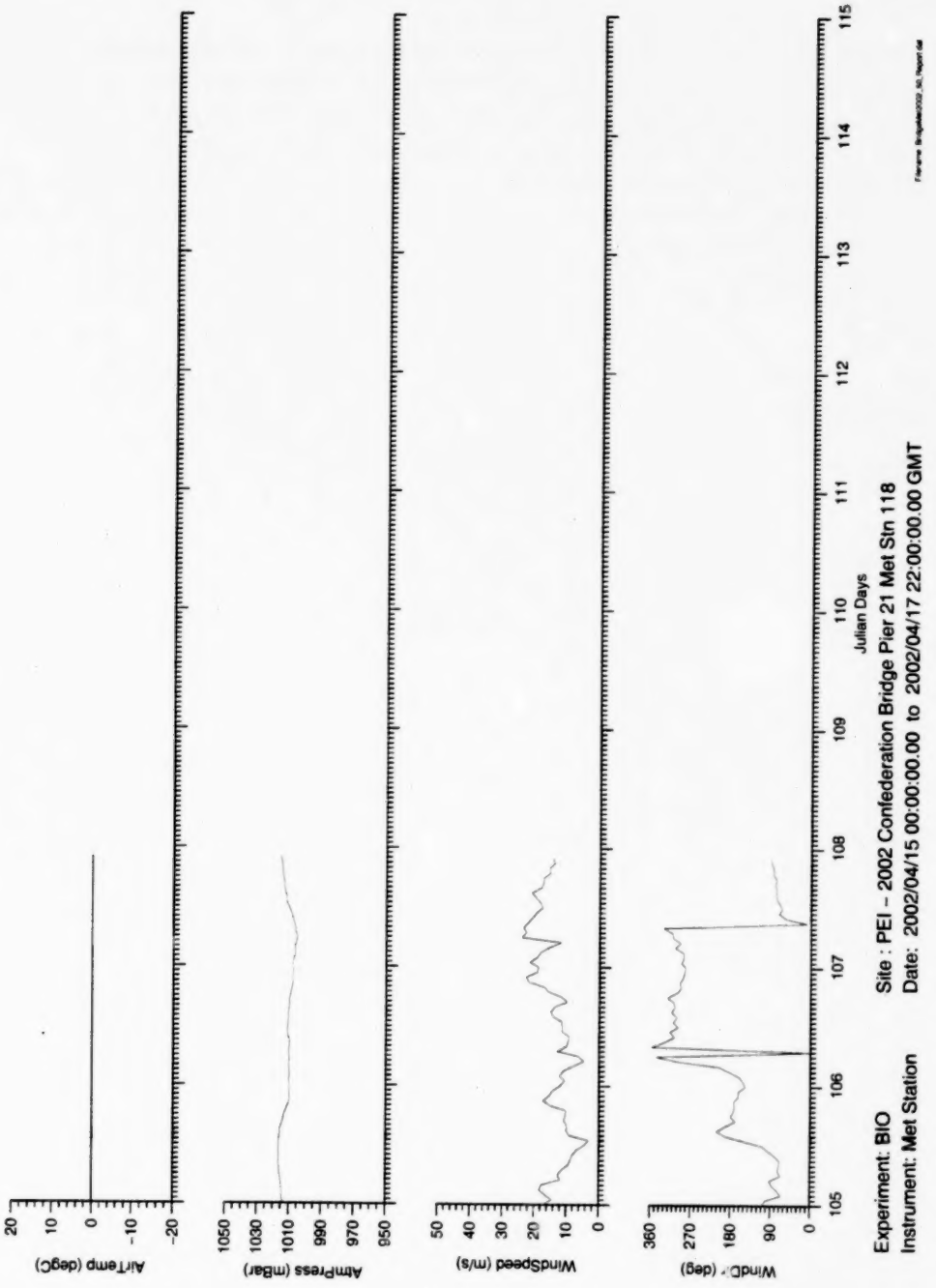

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
55
56
57
58
59
60
61
62
63
64
65
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/02/24 00:00:00.00 to 2002/03/06 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
65
66
67
68
69
70
71
72
73
74
75
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/03/06 00:00:00.00 to 2002/03/16 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
75
76
77
78
79
80
81
82
83
84
85
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/03/16 00:00:00.00 to 2002/03/26 00:00:00.00 GMT

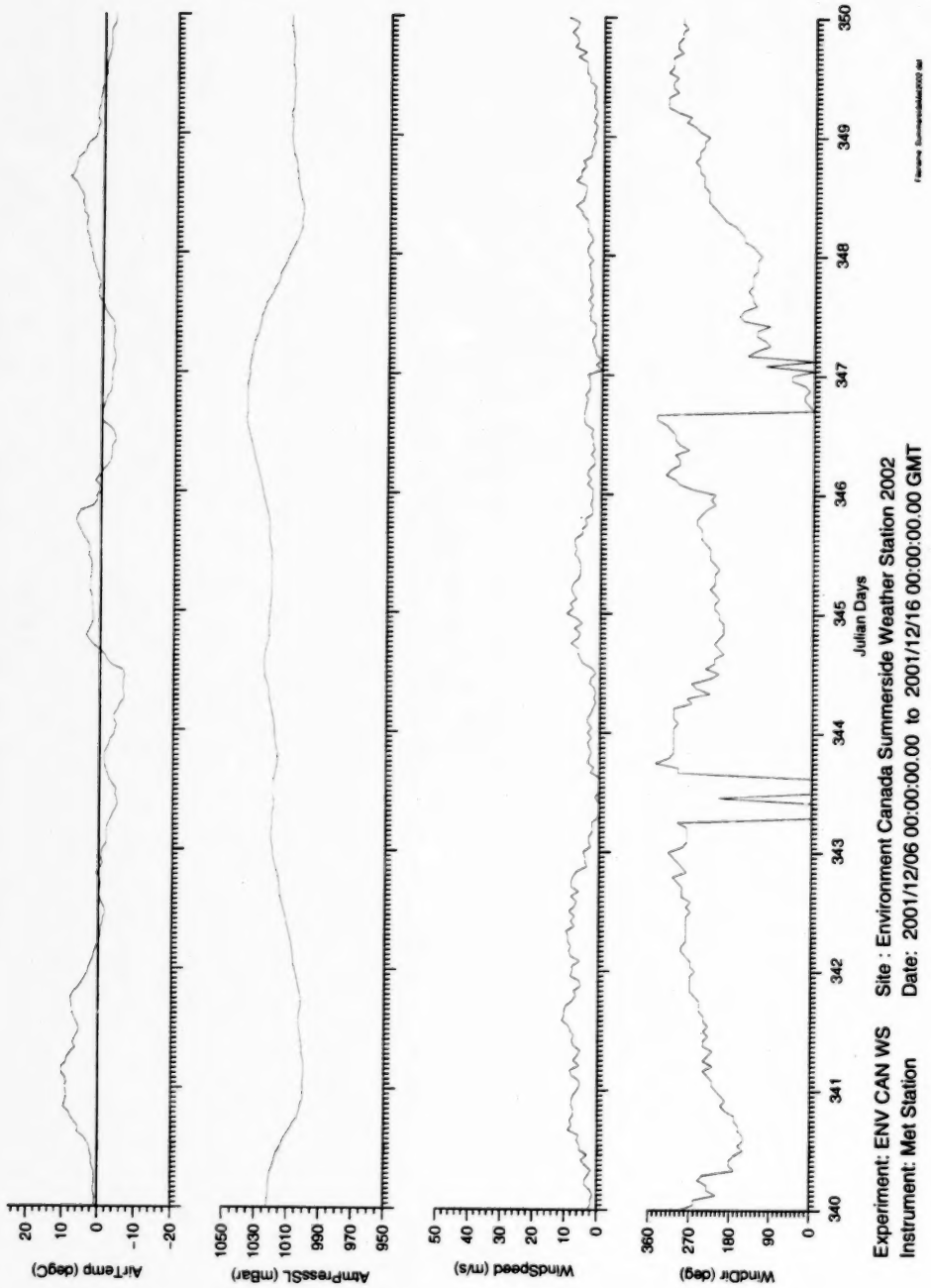

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
85
86
87
88
89
90
91
92
93
94
95
Julian Days
Experiment: BIO
Instrument: Met Station
Site : : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/03/26 00:00:00.00 to 2002/04/05 00:00:00.00 GMT

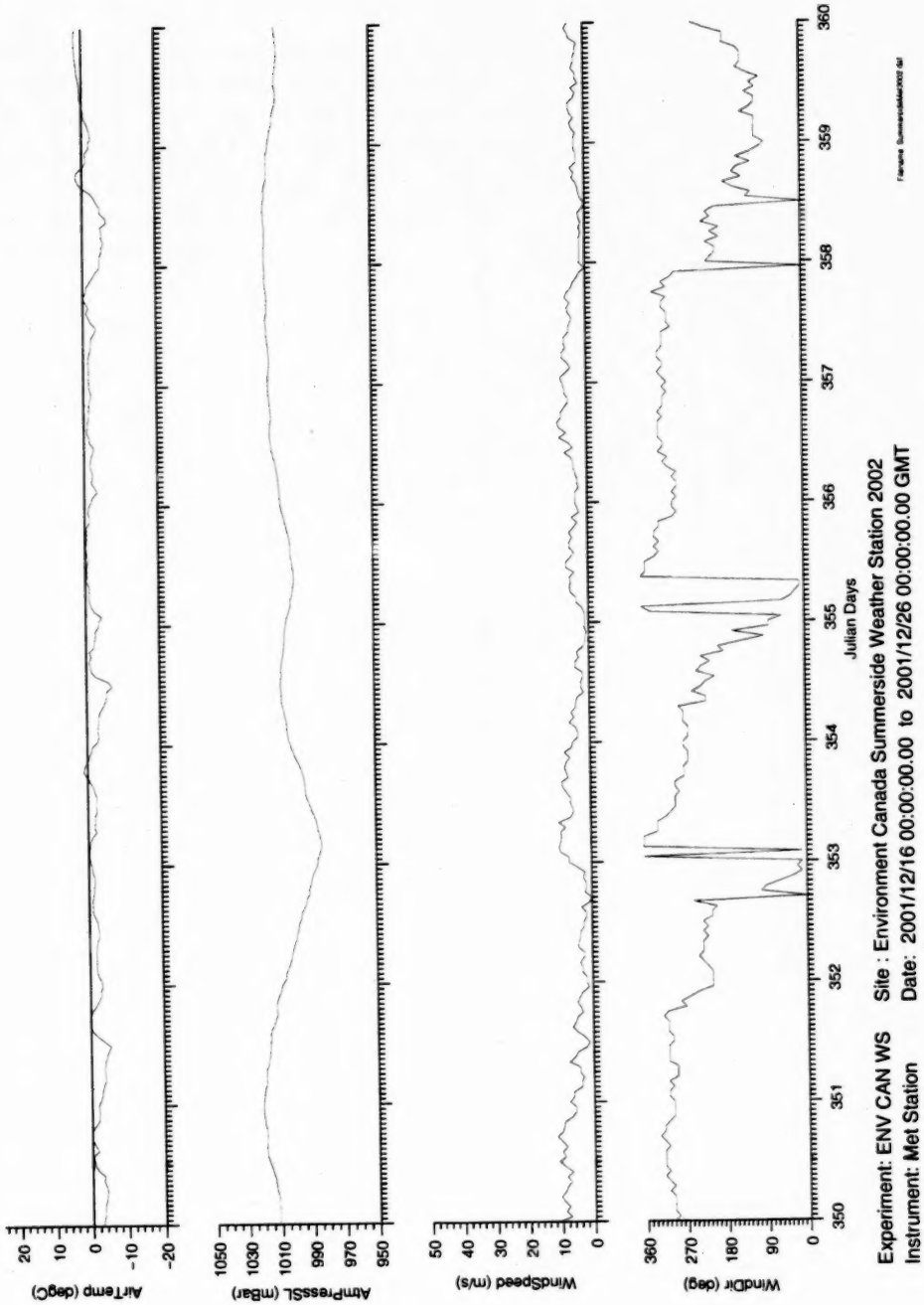

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
95
96
97
98
99
100
101
102
103
104
105
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI – 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/04/05 00:00:00.00 to 2002/04/15 00:00:00.00 GMT

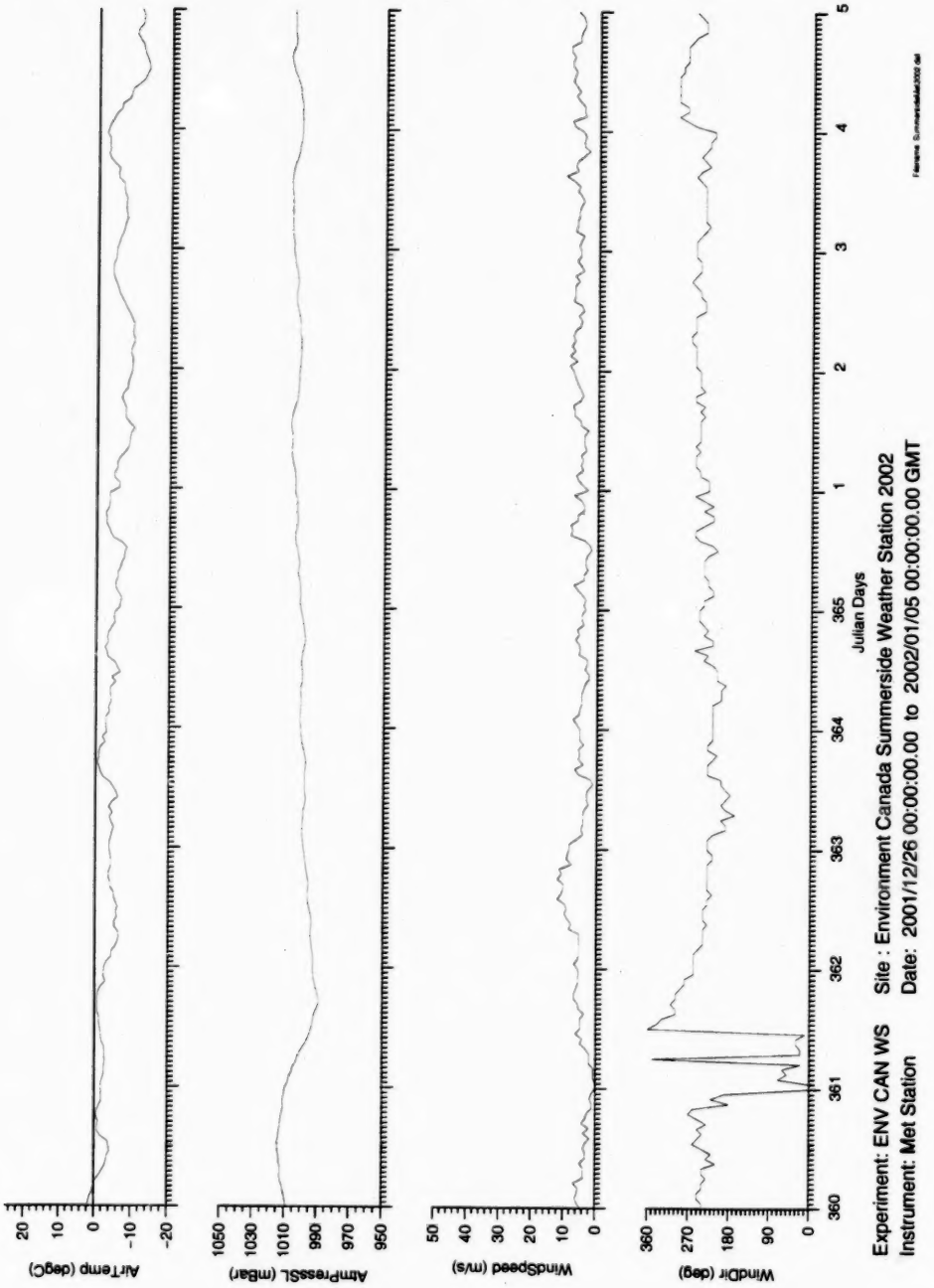

AirTemp (degC)
20
10
0
-10
-20
AtmPress (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
105
106
107
108
109
110
111
112
113
114
115
Julian Days
Experiment: BIO
Instrument: Met Station
Site : PEI - 2002 Confederation Bridge Pier 21 Met Stn 118
Date: 2002/04/15 00:00:00.00 to 2002/04/17 22:00:00.00 GMT

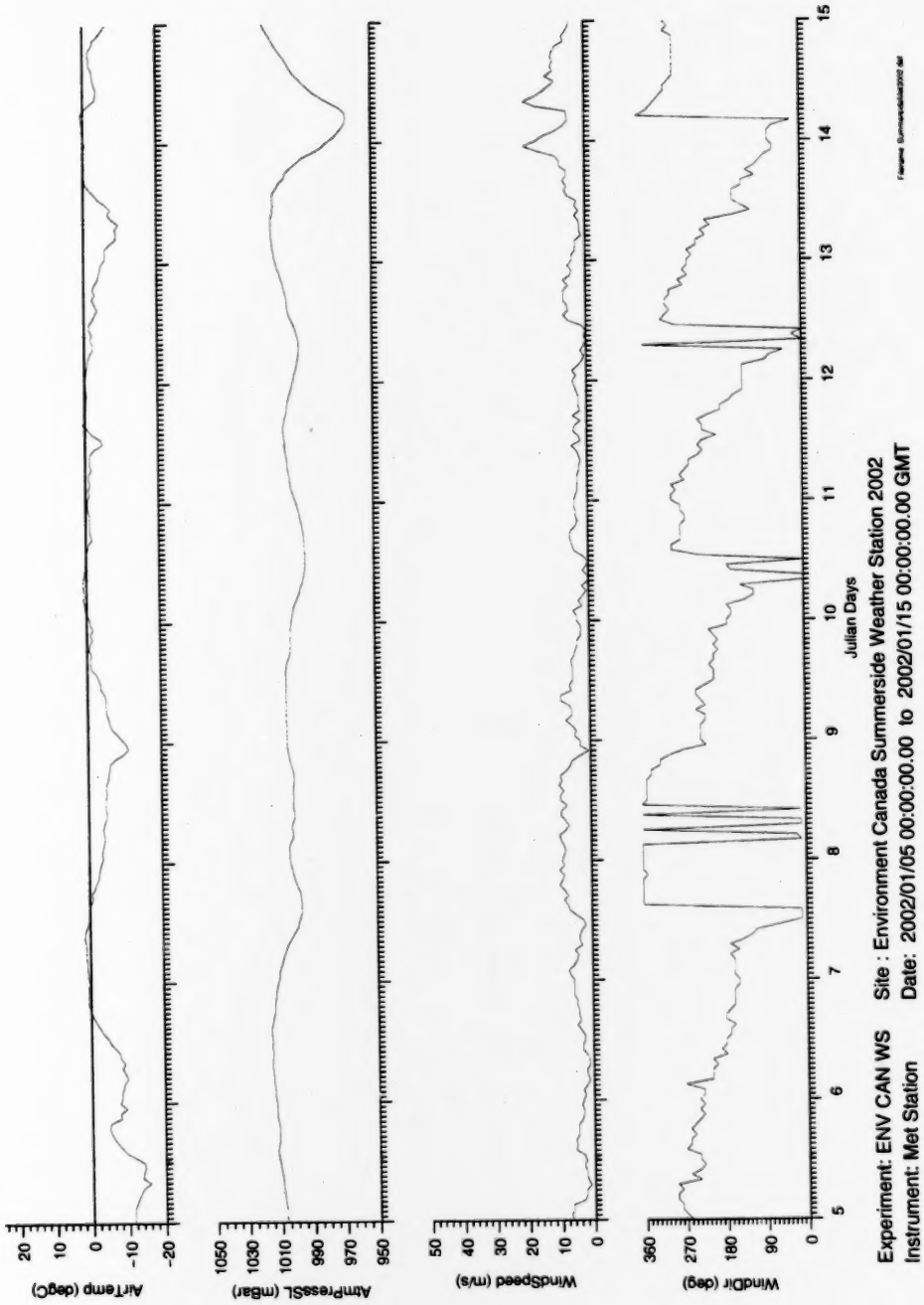
6.4.2 MET Summerside

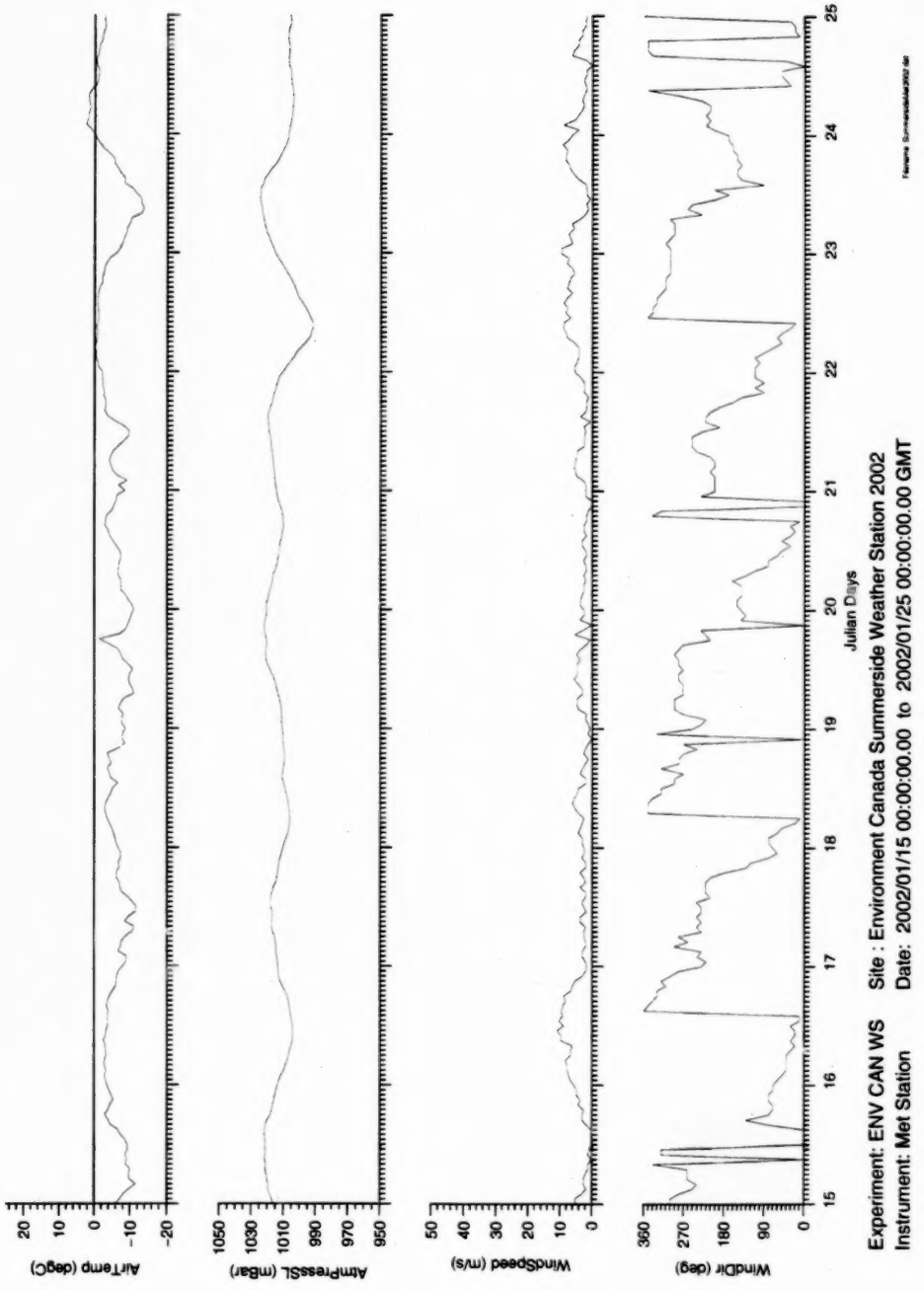
The following data were obtained from Environment Canada Weather Office in Summerside, Prince Edward Island collected at 46.44°N 63.83°W at 19.5m. Four hours were added to the time channel to convert from Atlantic Standard Time to Universal Time. The data included wind speed and direction, atmospheric pressure and temperature. The corrected to sea level atmospheric pressure data from this sensor were used for the adjustment of the IPS pressure data to water level data.

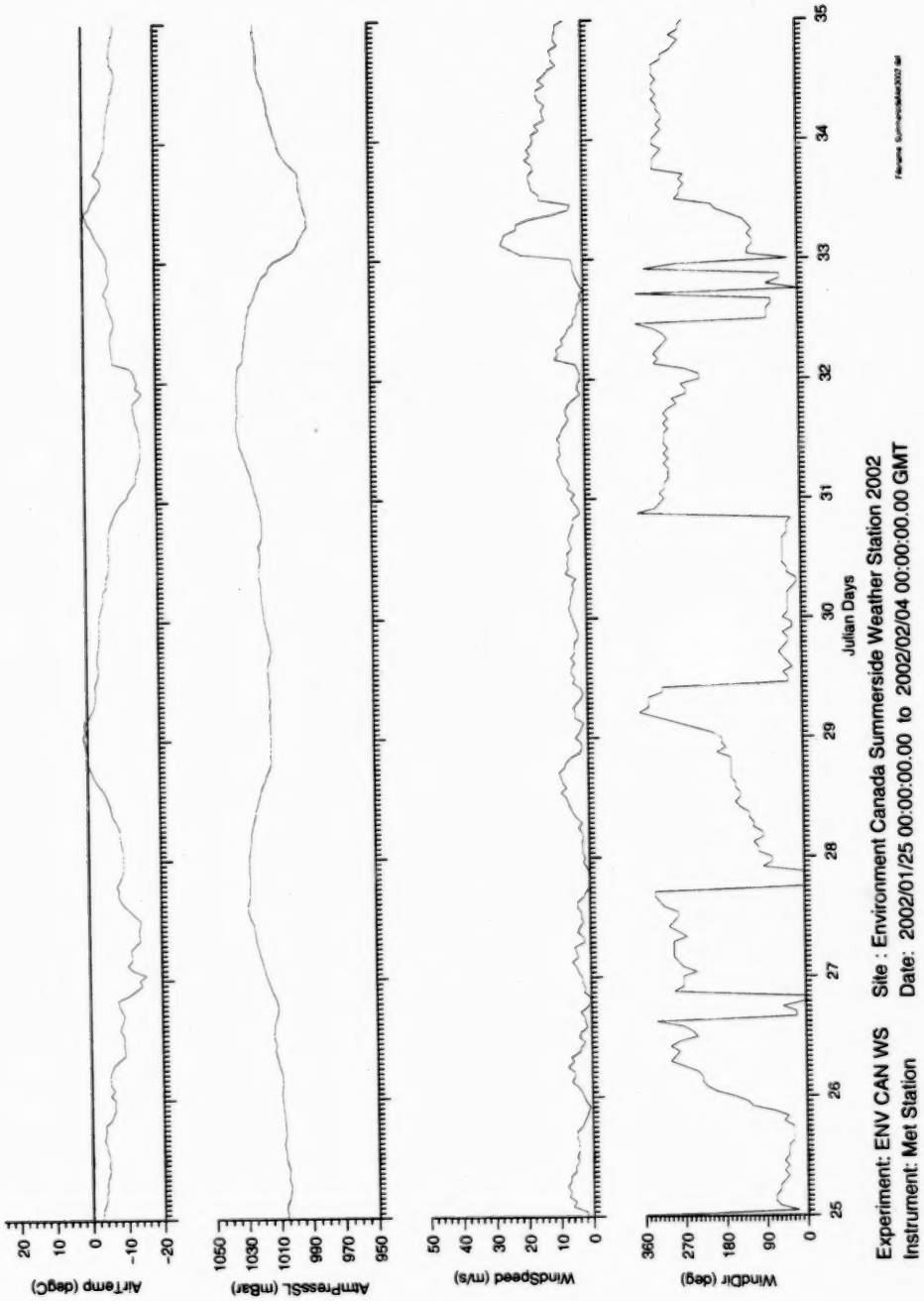

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
340
341
342
343
344
345
346
347
348
349
350
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2001/12/06 00:00:00.00 to 2001/12/16 00:00:00.00 GMT

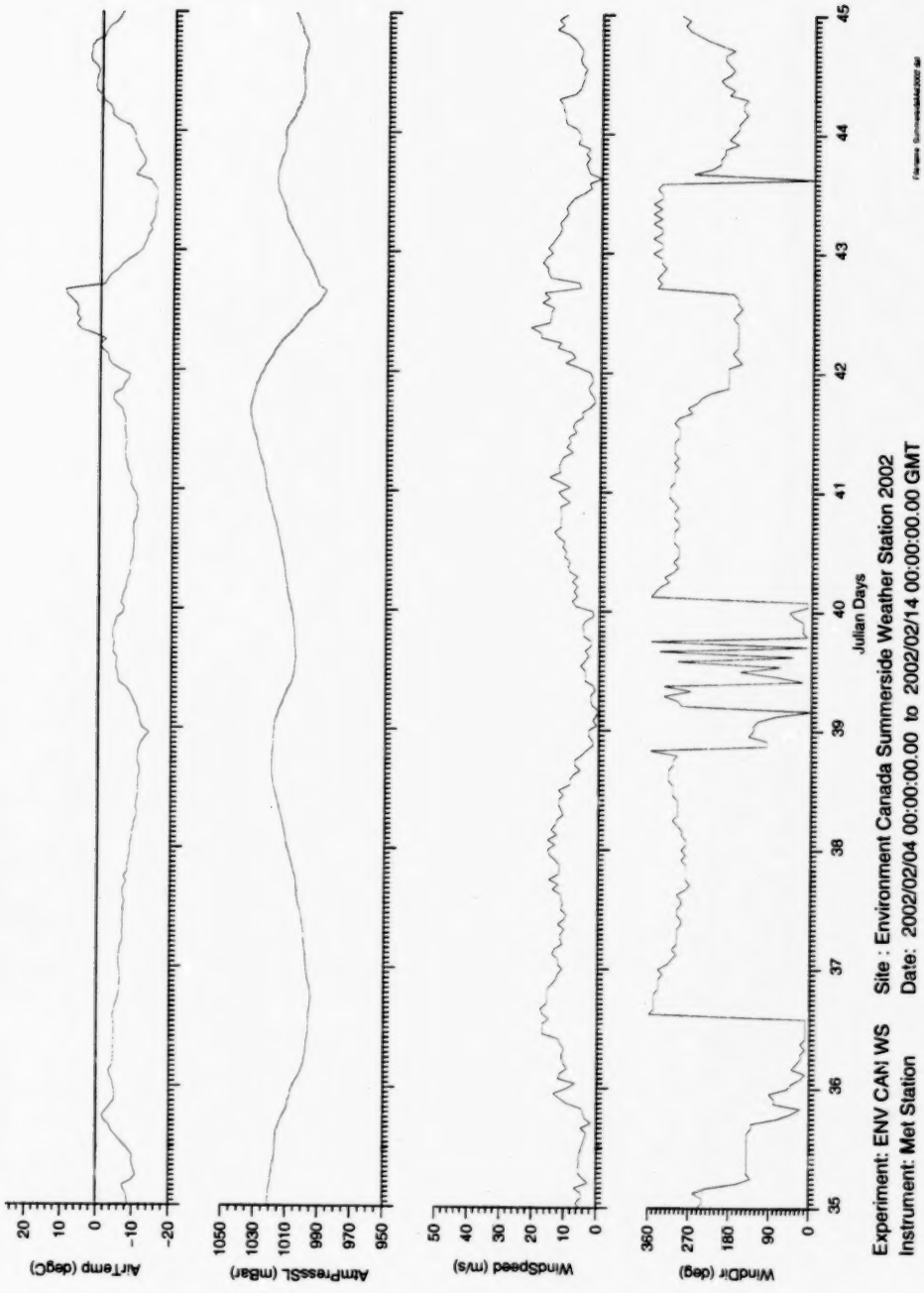

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
350
351
352
353
354
355
356
357
358
359
360
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2001/12/16 00:00:00.00 to 2001/12/26 00:00:00.00 GMT

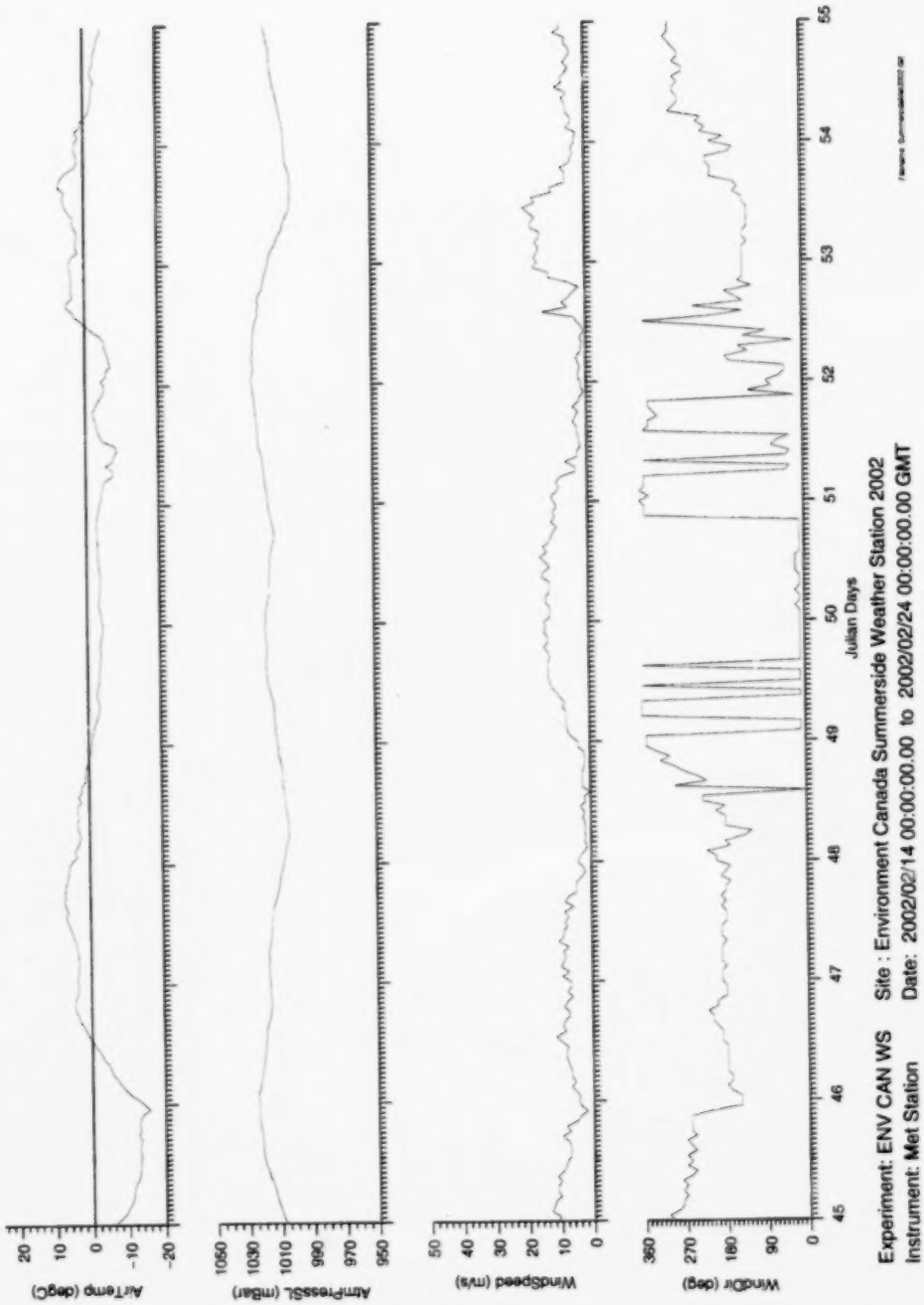

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
360
361
362
363
364
365
1
2
3
4
5
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2001/12/26 00:00:00.00 to 2002/01/05 00:00:00.00 GMT

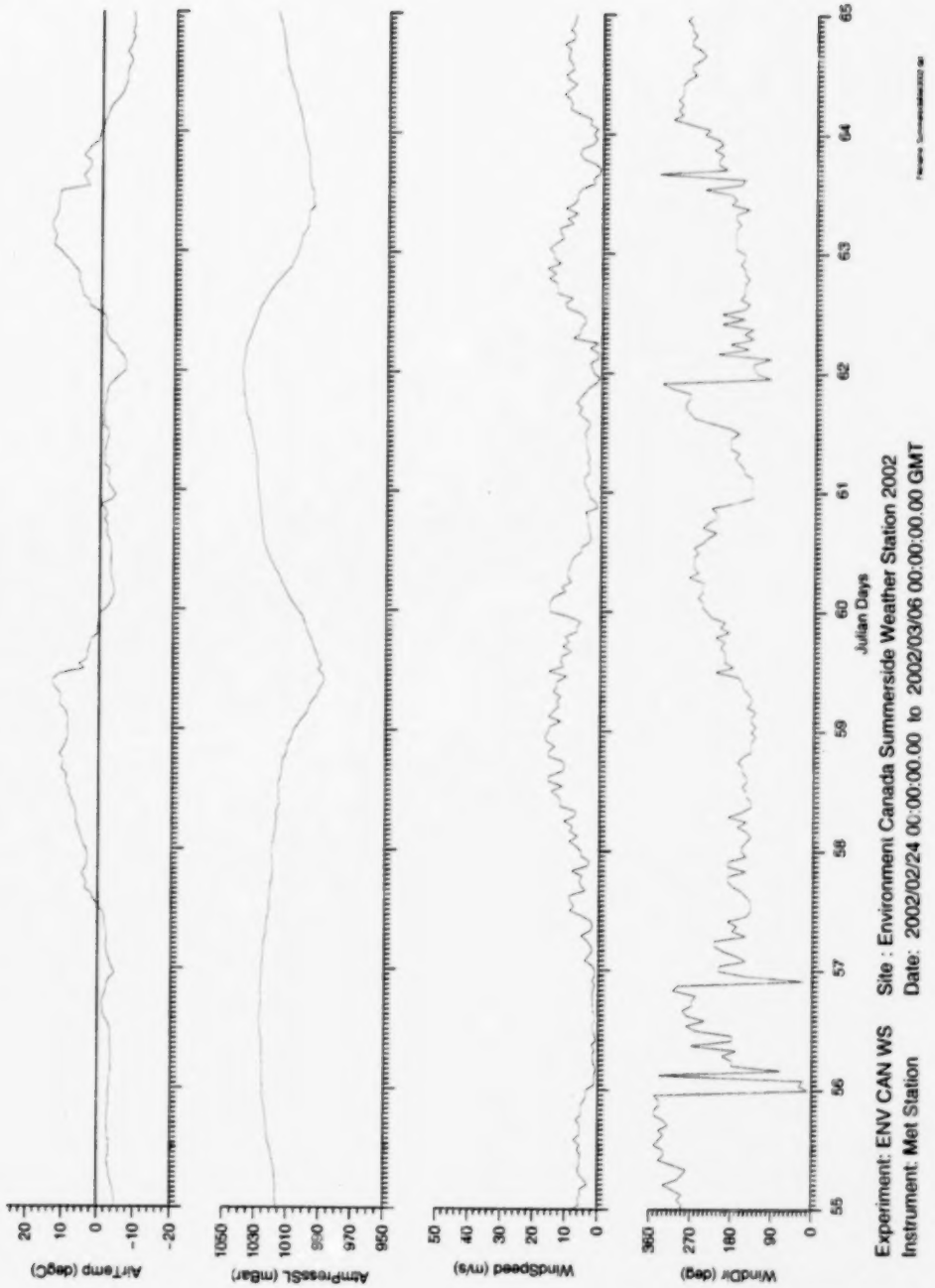

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mbar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
5
6
7
8
9
10
11
12
13
14
15
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/01/05 00:00:00.00 to 2002/01/15 00:00:00.00 GMT

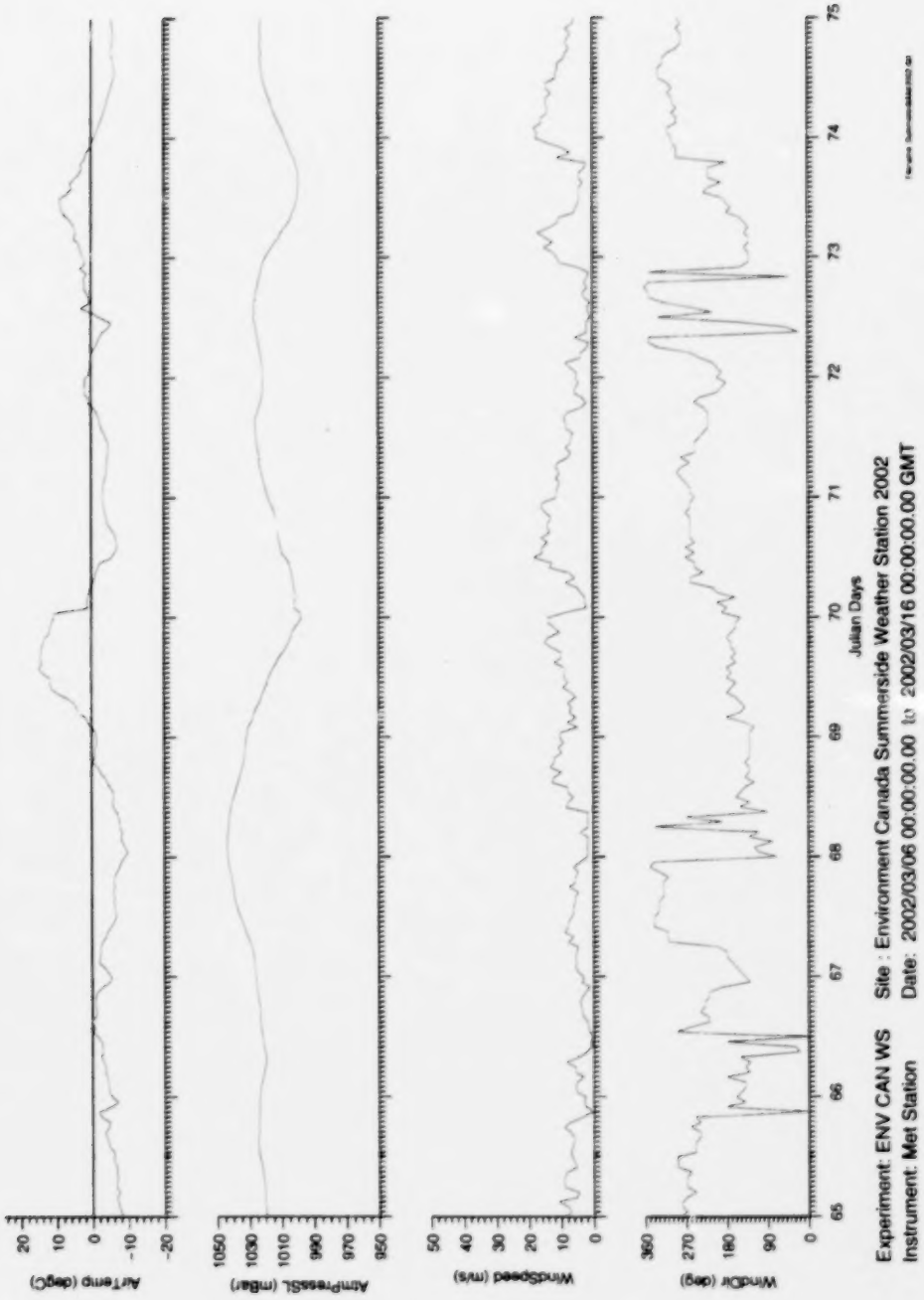

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
15
16
17
18
19
20
21
22
23
24
25
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/01/15 00:00:00.00 to 2002/01/25 00:00:00.00 GMT

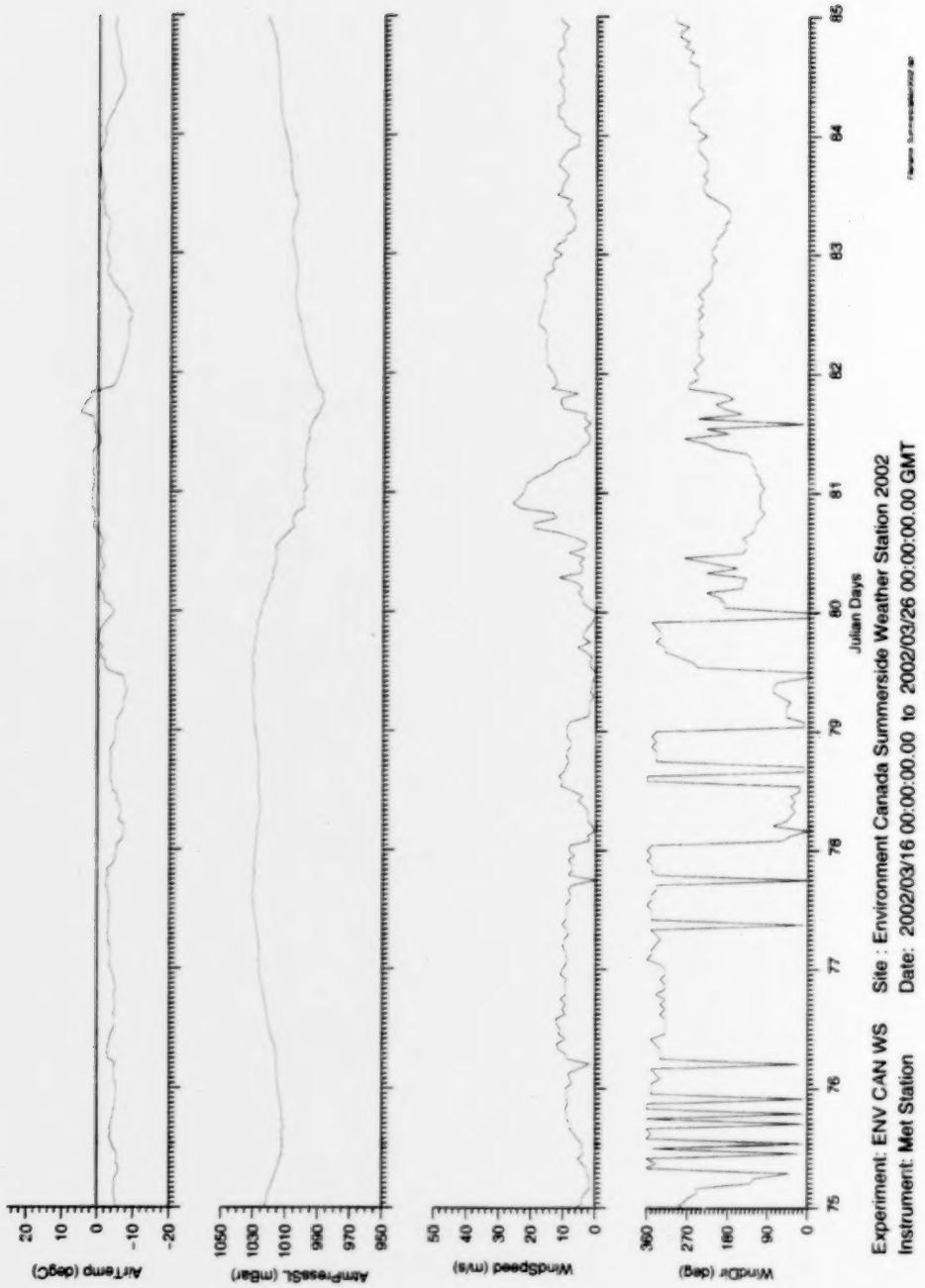

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
25
26
27
28
29
30
31
32
33
34
35
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/01/25 00:00:00.00 to 2002/02/04 00:00:00.00 GMT

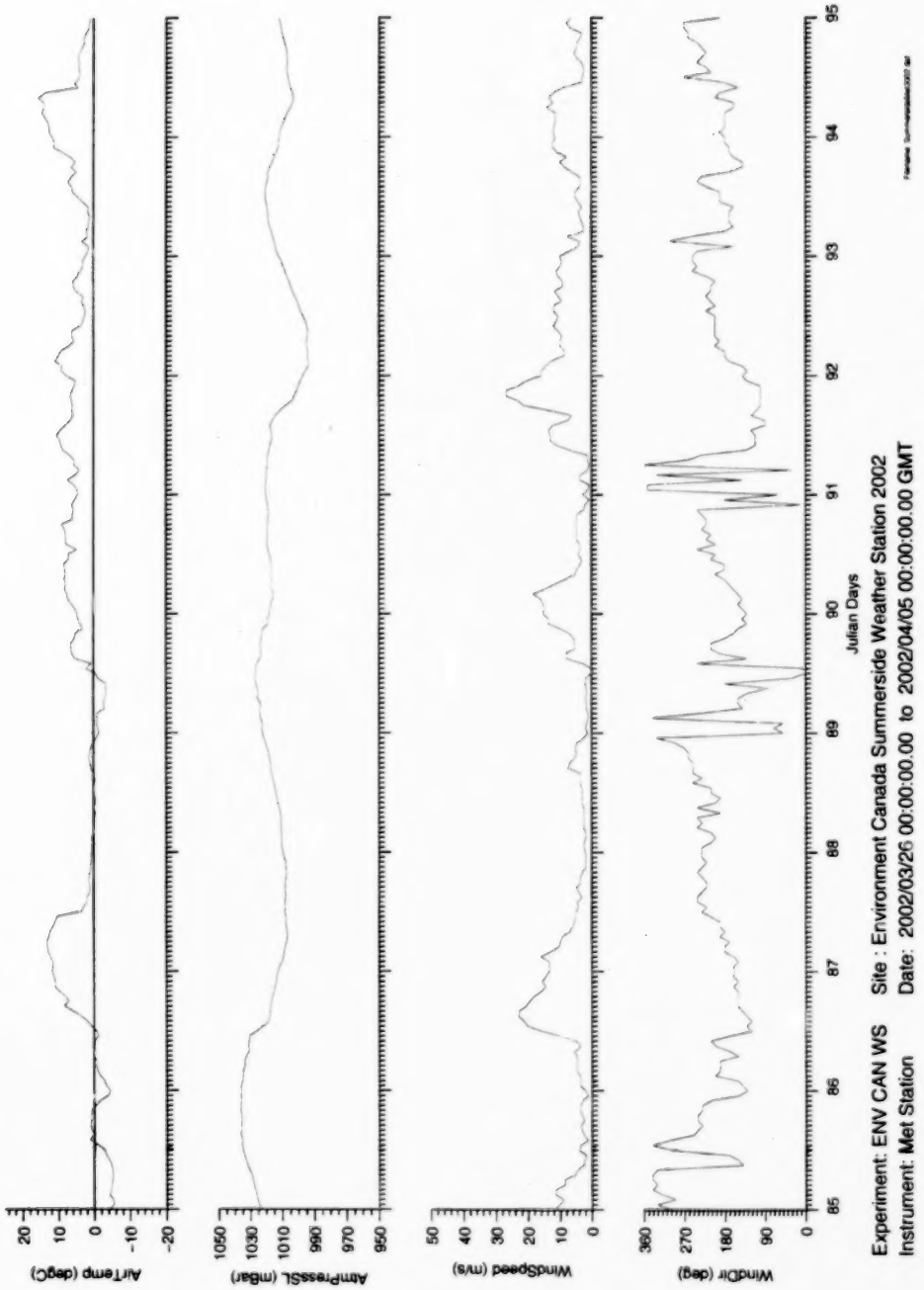

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
35
36
37
38
39
40
41
42
43
44
45
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/02/04 00:00:00.00 to 2002/02/14 00:00:00.00 GMT

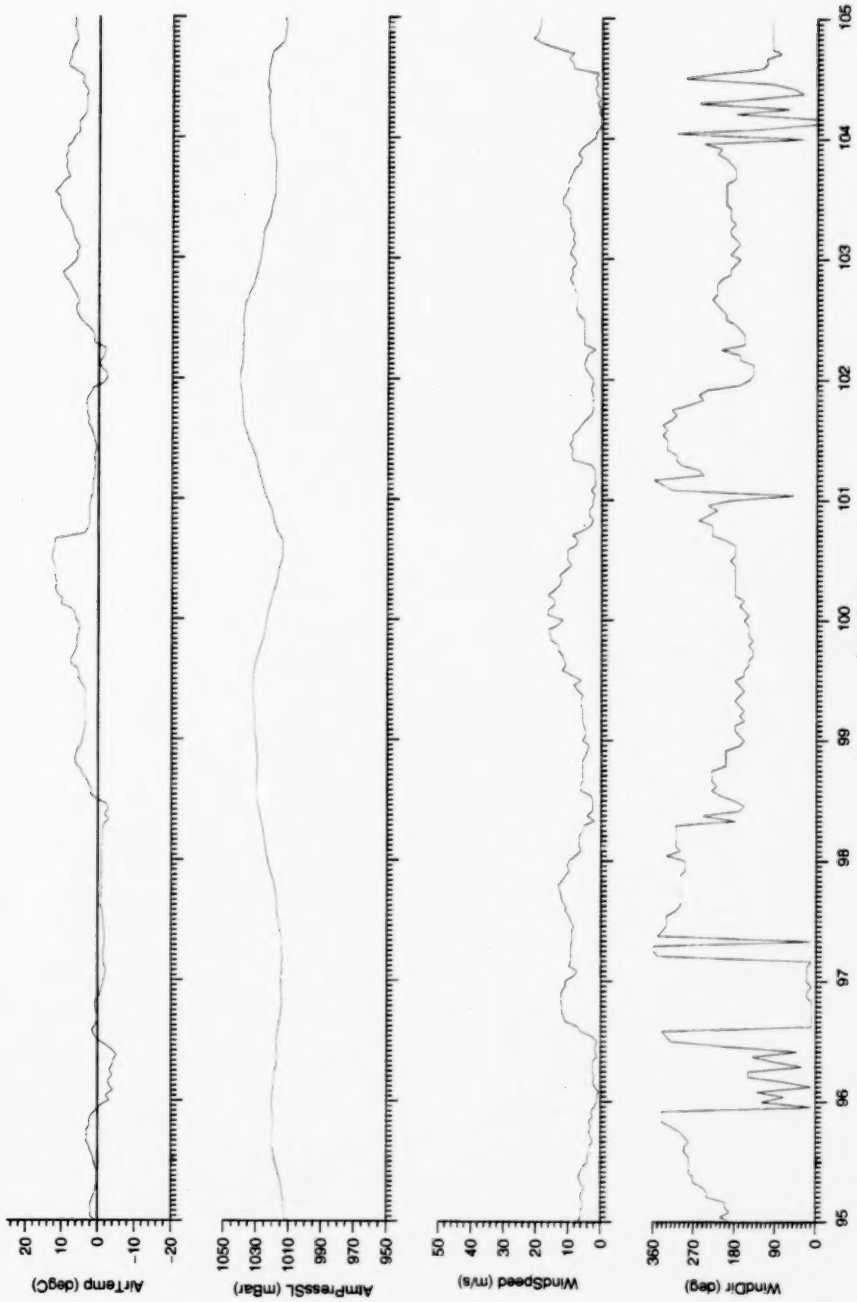

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
45
46
47
48
49
50
51
52
53
54
55
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/02/14 00:00:00.00 to 2002/02/24 00:00:00.00 GMT

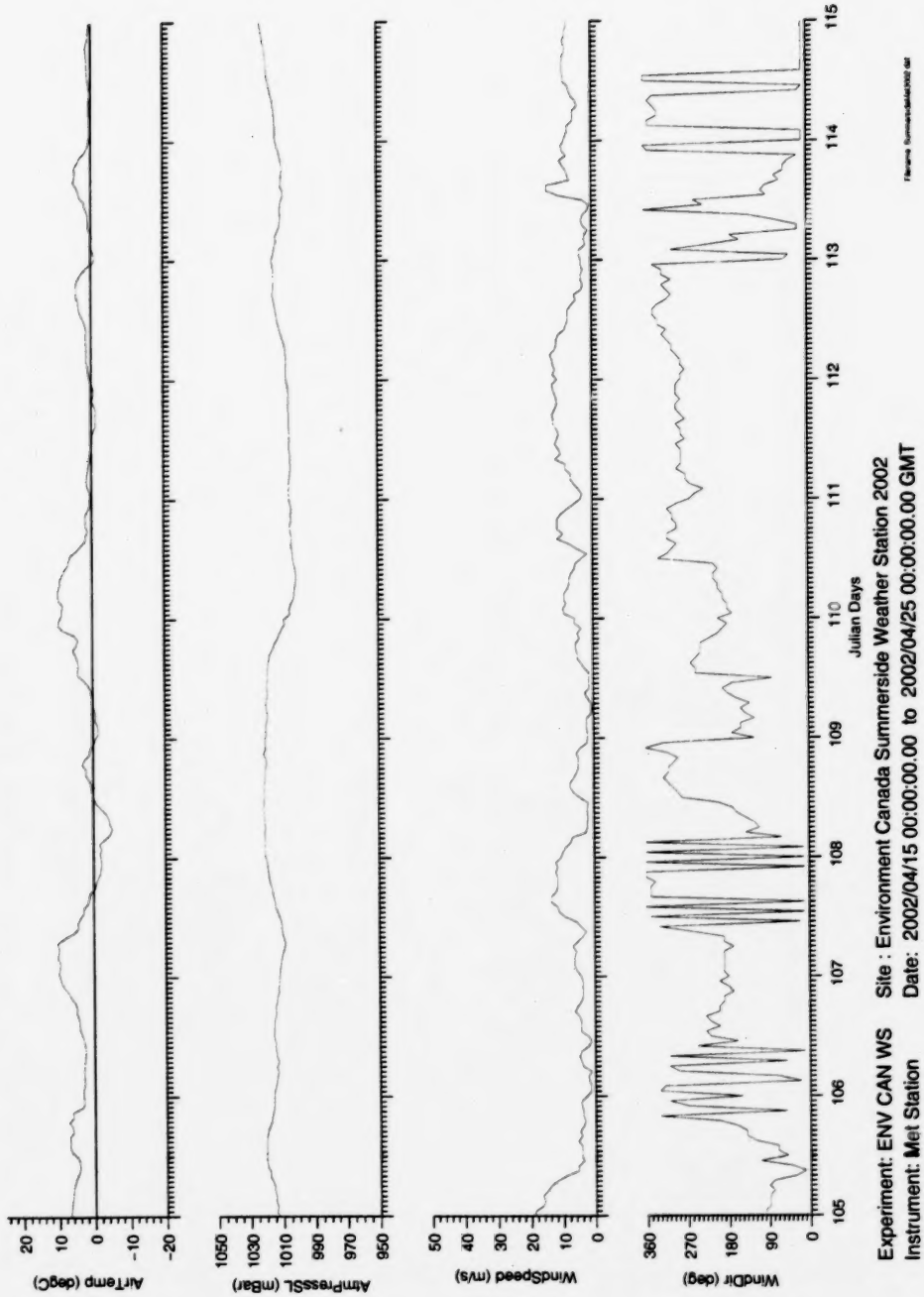

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
55
56
57
58
59
60
61
62
63
64
65
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/02/24 00:00:00.00 to 2002/03/06 00:00:00.00 GMT

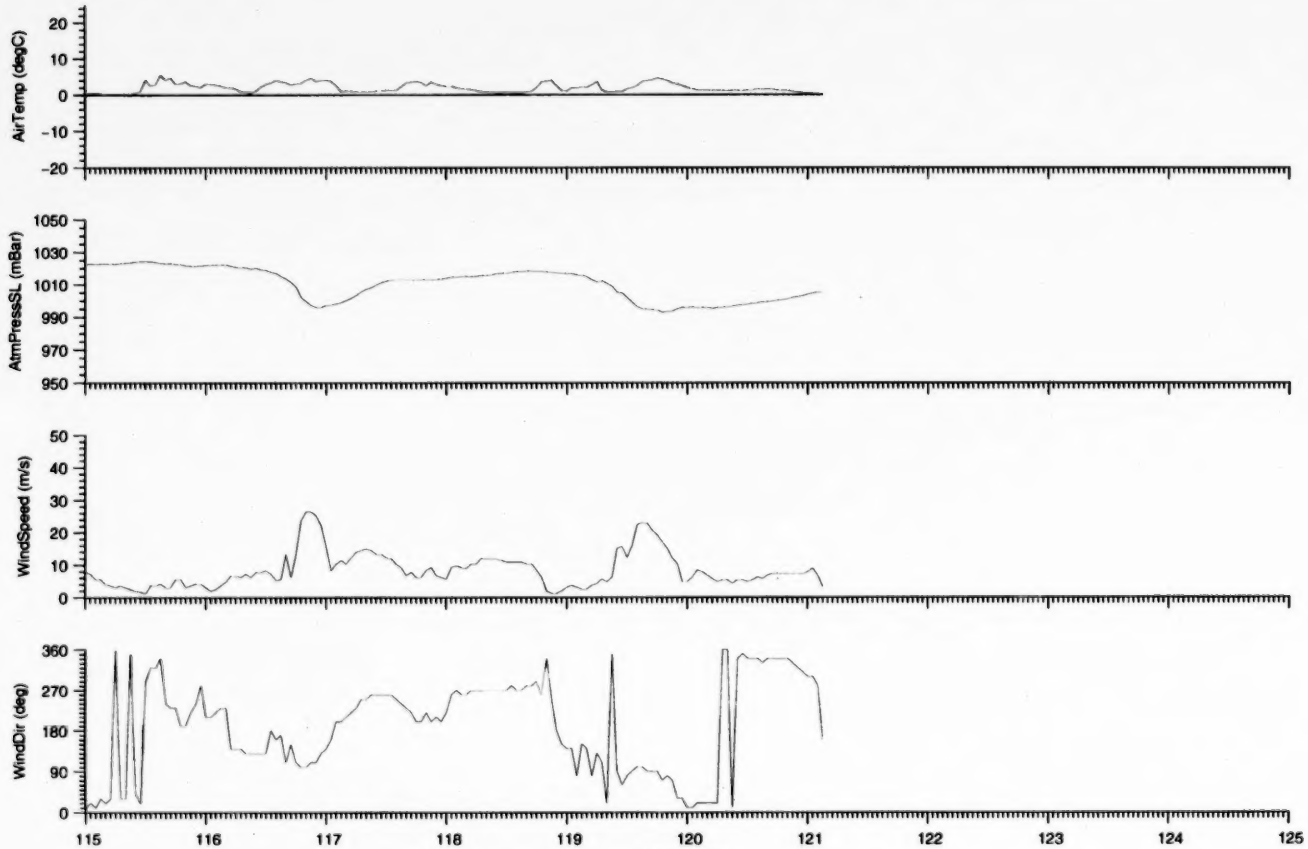

AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
65
66
67
68
69
70
71
72
73
74
75
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/03/06 00:00:00.00 to 2002/03/16 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
75
76
77
78
79
80
81
82
83
84
85
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/03/16 00:00:00.00 to 2002/03/26 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
85
86
87
88
89
90
91
92
93
94
95
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/03/26 00:00:00.00 to 2002/04/05 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
95
96
97
98
99
100
101
102
103
104
105
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/04/05 00:00:00.00 to 2002/04/15 00:00:00.00 GMT


AirTemp (degC)
20
10
0
-10
-20
AtmPressSL (mBar)
1050
1030
1010
990
970
950
WindSpeed (m/s)
50
40
30
20
10
0
WindDir (deg)
360
270
180
90
0
105
106
107
108
109
110
111
112
113
114
115
Julian Days
Experiment: ENV CAN WS
Instrument: Met Station
Site : Environment Canada Summerside Weather Station 2002
Date: 2002/04/15 00:00:00.00 to 2002/04/25 00:00:00.00 GMT



Experiment: ENV CAN WS Site : Environment Canada Summerside Weather Station 2002

Instrument: Met Station Date: 2002/04/25 00:00:00.00 to 2002/05/01 03:00:00.00 GMT